

SUBAWARD AGREEMENT
BETWEEN
THE TAMPA BAY ESTUARY PROGRAM
AND
MANATEE COUNTY
FOR
GULF COAST ECOSYSTEM RESTORATION COUNCIL
COMPREHENSIVE PLAN COMPONENT (RESTORE) –
ROBINSON PRESERVE COASTAL UPLAND HABITAT
RESTORATION

THIS SUBAWARD AGREEMENT is entered into by and between the Tampa Bay Estuary Program (TBEP) and Manatee County, a political subdivision of the State of Florida, hereinafter referred to as the COUNTY.

W I T N E S S E T H:

WHEREAS, TBEP has been awarded federal money from the Gulf Coast Ecosystem Restoration Council, which administers a trust fund created by the Resources and Ecosystems Sustainability, Tourist Opportunities, and Revived Economies of the Gulf Coast States Act of 2012 (“RESTORE Act”); and

WHEREAS, TBEP has identified local coastal restoration projects within the Tampa Bay estuary watershed to improve habitat for native wildlife and ecosystem services; and

WHEREAS, coastal upland habitat restoration within Robinson Preserve is one of the local coastal restoration projects identified by TBEP; and

WHEREAS, TBEP and the COUNTY have reached an understanding on the type, extent and quality of services to be rendered and the amount and method of compensation to be paid to the COUNTY; and

WHEREAS, the parties wish to enter into this agreement to implement the Robinson Preserve coastal upland habitat restoration project in accordance with the terms and conditions of the RESTORE Act.

NOW, THEREFORE, in consideration of the mutual terms, covenants, representations, and conditions herein contained, the parties agree as follows:

1. Covenant for Services.

The TBEP does hereby retain COUNTY to perform the services identified in the Scope of Work, “Exhibit A” attached hereto, and the COUNTY does hereby agree to perform such services hereinafter referred to as the "PROJECT", for the TBEP upon the terms and conditions set forth in this agreement. This agreement is also subject to federal regulations, including those concerning procurement contained in 2 CFR § 200.318, in effect on the date first written above.

2. Definition, Scope, and Quality of Services.

COUNTY shall perform the services described in the Scope of Work with respect to the PROJECT as attached hereto and incorporated herein as Exhibit "A" and shall comply, as well as assist TBEP in complying, with the additional RESTORE Council terms and conditions as attached hereto and incorporated herein as Exhibit "B". The COUNTY is responsible for the professional quality, technical accuracy, timely completion and coordination of all designs, drawings, specifications, reports, data collection and other services furnished by the COUNTY under this agreement. The COUNTY shall consult with the TBEP during development of the PROJECT and TBEP shall be entitled to review any and all work progress of the COUNTY. Prior to environmental data collection or data compilation, a Quality Assurance Project Plan (QAPP) must be approved by the Environmental Protection Agency ("EPA"), and a current EPA approved Quality Management Plan (QMP) must be in place. If requested, environmental data collected under this agreement must be submitted to EPA. The COUNTY shall, without additional compensation, correct or revise any errors, omissions or other deficiencies in its designs, drawings, specifications, reports, and other services. Once the TBEP determines that the services identified in the Scope of Work, "Exhibit A" attached hereto, have been satisfactorily performed, completed and accepted, the obligation of the COUNTY is considered complete. The COUNTY shall perform the professional services necessary to accomplish the work specified in the Scope of Work in accordance with this agreement. TBEP will be provided thirty (30) working days to review and approve all draft work products; and COUNTY shall provide to the TBEP, upon completion, one (1) electronic copy of Project Reports in a format approved by the TBEP. In the event of hurricanes, tornados, floods, acts of God, acts of war, or other such catastrophes, or other emergencies which are beyond the COUNTY's control, the COUNTY's obligations to meet the time frames provided in this agreement, including the exhibits thereto, shall be suspended for the period of time the condition continues to exist. During such suspension, this agreement shall remain in effect.

3. Project Managers.

In order to ensure proper coordination and review throughout the term of this agreement, TBEP shall designate a project manager who shall be the person with whom the COUNTY shall communicate. The project manager shall be responsible for transmitting and receiving information and will interpret and communicate all TBEP decisions which are pertinent to this agreement to the COUNTY. The project manager will meet with the COUNTY as necessary to provide guidance, as well as to review and comment on interim reports and draft submittals. The COUNTY will initiate no actions outside the Scope of Work, including issuance of statements and press releases, without prior written authorization from the TBEP Project Manager. The Project Manager for TBEP shall be Maya Burke, 263 13th Ave. South, Suite 350, St. Petersburg, Florida 33701. The COUNTY shall designate Damon Moore whose address is 5502 33rd Avenue Drive West, Bradenton, FL 34209 with whom the TBEP Project Manager can coordinate and who shall have authority to act on behalf of the COUNTY; provided, however that the COUNTY's Project Manager shall not have authority to alter the Scope of Work or terms of this agreement. Any changes to the designation of a Project Manager or his/her address shall be provided to the other party in writing.

4. Consideration.

a) The TBEP will make available to COUNTY a sum not to exceed Two Hundred Seventy-One Thousand Four Hundred and Thirty (\$271,430) Dollars.

b) The COUNTY shall submit completed invoices at the completion of each task defined in Exhibit "A," along with a progress report to the TBEP Project Manager with certification that the invoices are accurate and in accordance with the terms of this agreement and the approved budget. Invoices shall be submitted for each PROJECT task and for completed work only. The TBEP shall remit to the COUNTY within thirty (30) days the entire invoice amount, up to the total amount allocated for each task and upon certification by the TBEP Project Manager that it is consistent with the PROJECT budget and otherwise in accordance with the terms of this agreement.

c) The COUNTY shall provide TBEP with annual observational data reports consistent with the methods identified in the approved Quality Assurance Project Plan, the Observational Data Plan (ATTACHMENT 1 to EXHIBIT "A") and Data Management Plan (ATTACHMENT 2 to EXHIBIT "A"), along with semi-annual reports consistent with 2 CFR § 200.328 describing the progress of the PROJECT (ATTACHMENT 3), adherence to the performance schedules, and any developments affecting the PROJECT. The COUNTY shall promptly advise the TBEP of issues that arise that may impact the successful and timely completion of the PROJECT.

d) COUNTY shall submit the final invoice for payment to TBEP no more than sixty (60) days after the agreement ends or is so terminated; if COUNTY fails to do so due to inexcusable neglect, all right to payment is forfeited, and TBEP will not honor any requests submitted after the aforesaid time period. The TBEP Project Manager and the TBEP may withhold any payment due under the terms of this agreement until all work products due from COUNTY, and necessary adjustments thereto, have been approved. The TBEP may not unreasonably withhold payments once work products have been approved.

e) Invoices requesting payment must be sent to the TBEP Project Manager at the following address:

Maya Burke, Science Policy Coordinator
Tampa Bay Estuary Program
263 13th Avenue S., Suite 350
St. Petersburg, Florida 33701
mburke@tbep.org

It is understood by the parties that the COUNTY is responsible for the appropriate expenditure of the funds provided to it by the TBEP and shall only expend such funds pursuant to the terms and conditions of this agreement and shall not utilize such funds for any other purpose.

COUNTY verifies that the wage rates and other factual unit costs supporting the compensation called for in this agreement are accurate, complete and current. In the event TBEP determines that the agreement price was significantly increased due to inaccurate, incomplete or non-current rates and costs, the agreement price shall be adjusted to exclude said sums.

5. Payment Limitations.

Project costs incurred prior to the effective date of this agreement are not eligible for funding under this agreement.

6. Independent Status.

COUNTY acknowledges that it is an independent contractor providing services contemplated pursuant to this agreement, and that it is neither an agent, employee, partner nor joint venture of or with the TBEP. No work area, supplies, telephone lines, equipment or other resources shall be supplied to the COUNTY by TBEP. In addition, thereto, both parties acknowledge that this agreement is for their mutual benefit and is not intended to create any third-party beneficiary rights or obligations. Notwithstanding any other provisions of this contract, neither EPA nor the United States is a party to this contract.

7. Federal Laws and Regulations.

a) COUNTY shall, prior to agreement execution, complete the Certificate Regarding Lobbying Form, ATTACHMENT 5 to EXHIBIT "A". If a Disclosure of Lobbying Activities Form, Standard Form LLL, is required, it may be obtained from the TBEP Project Manager. All disclosure forms as required by the Certification Regarding Lobbying Form must be completed and returned to the TBEP Project Manager.

b) COUNTY shall, comply with all applicable standards, orders or requirements issued under Section 306 of the Clean Air Act (42 U.S.C. § 1857(h)), Section 508 of the Clean Water Act (33 U.S.C. § 1368), Executive Order 11738 and EPA regulations (40 CFR Part 15).

c) COUNTY and subcontractors, when applicable, shall:

1) Comply with all applicable provisions of 2 CFR Part 2 including but not limited to 2 CFR § 200.318 and other applicable regulations;

2) Comply with EPA quality assurance requirements pursuant to 40 CFR § 31.45 prior to commencement of work.

3) Ensure that any subagreements contain the required provisions contained in 40 CFR § 31.36(e) and (i).

4) Ensure that prior to agreement execution, certify that it has not been Debarred or Suspended pursuant to 40 CFR Part 19, Subparts A through D, ATTACHMENT 4 to EXHIBIT "A".

5) Comply with all provisions of 40 CFR § 31.30 for all Budget and Programmatic changes.

6) Comply with all Federal statutes relating to nondiscrimination. These include but are not limited to:

(i) Title VI of the Civil Rights Act of 1964 (42 U.S.C. § 2000d et seq.) which prohibits discrimination on the basis of race, color or national origin; (ii) Title IX of the Education Amendments of 1972, as amended (20 U.S.C. §§ 1681-1683 and 1685-1686), which prohibits discrimination on the basis of sex; (iii) Section 504 of the Rehabilitation Act of 1973, as amended (29 U.S.C. § 794), which prohibits discrimination on the basis of handicaps; (iv) The Age Discrimination Act of 1975, as amended (42 U.S.C. §§ 6101-

6107), which prohibits discrimination on the basis of age in federally assisted programs; (v) Title VIII of the Civil Rights Act of 1968 (42 U.S.C. § 3601 et seq.), as amended, relating to nondiscrimination in the sale, rental or financing of housing; (vi) The Americans with Disabilities Act of 1990, (42 U.S.C. § 12101, et seq.), which prohibits discrimination against, and provides equal opportunities for individuals with disabilities, in employment public services, and public accommodations; (vi) The requirements of any other nondiscrimination statute(s) which may apply to this agreement.

7) Ensure that any products or materials which are the subject of, or are required to carry out this agreement shall be procured in accordance with the provisions of EPA regulations concerning procurement found at 2 CFR § 200.318.

8) Ensure the use of recycled paper for all documents and data including draft, interim, and final reports developed, created and written by COUNTY pursuant to EPA Order 1000.25 and shall include on the bottom of the first page, "This document is printed on recycled paper".

9) Comply with all requirements of all other Federal laws, executive orders, regulations and policies governing this program that are applicable to this agreement.

10) Comply with any applicable provisions of the Davis-Bacon Act, 40 U.S.C. §§ 3141 - 3148 and 2 CFR Part 200, App.II (D).

11) Complete the Certifications required by 31 CFR § 34.802 as set forth in ATTACHMENT 6 to EXHIBIT "A" hereto.

12) Comply with any applicable federal or state requirements concerning participation in rendering services hereunder by certified minority-owned business or woman-owned business enterprises.

13) Ensure that all contractors, subcontractors, subgrantees, or others with whom it arranges to provide services will comply with the above laws and regulations.

8. Requirements of Section 287.058, Florida Statutes.

The COUNTY agrees:

a) To submit bills for fees or other compensation for services or expenses in sufficient detail for a proper pre-audit and post-audit thereof.

b) Where applicable, to submit bills for any travel expenses in accordance with Section 112.061, Florida Statutes.

c) To provide units of deliverables, including reports, findings, and drafts as specified in this agreement and the Scope of Work, to be received and accepted by the TBEP Project Manager prior to payment.

d) To allow public access to all documents, papers, letters, or other materials that are subject to, but not exempt by, Chapter 119, Florida Statutes, and made or received by the COUNTY in conjunction with this agreement.

e) That any products or materials which are the subject of, or are required to carry out this agreement shall be procured in accordance with the provisions of Section 403.7065, Florida Statutes.

9. Contract Data, Documents, Patent, and Copyrights.

All documents and data including draft, interim, and final reports developed, created or written by the COUNTY shall be the joint property of TBEP and the COUNTY. The COUNTY shall not use any of the data or reports developed pursuant to this agreement without the express written consent of TBEP. Further unrelated use by TBEP of the data, reports or other work product generated by the COUNTY pursuant to this agreement shall be at the risk of TBEP, and COUNTY makes no representations or warranties as to the correctness of the material when used for unrelated purposes.

If any discovery or invention arises or is developed in the course of or as a result of work or services performed under this agreement, or in any wise connected herewith, the COUNTY shall refer the discovery or invention to the TBEP to determine whether patent protection will be sought in the name of the United States of America and the State of Florida. Any and all patent rights accruing under or in connection with the performance of this agreement are hereby reserved to the United States of America and the State of Florida. In the event that any books, manuals, films or other copyrightable material are produced, the COUNTY shall notify the TBEP and all copyrights accruing under or in connection with the performance under this agreement are hereby reserved to the United States of America and the State of Florida.

10. Audits and Records.

The COUNTY agrees:

a) To maintain books, records, and documents (including electronic storage media) in accordance with generally accepted accounting procedures and practices that sufficiently and properly reflect all revenues and expenditures of funds provided by the TBEP under this agreement.

b) To assure that these records shall be subject at all reasonable times to inspection, review, audit, copy, or removal from premises by TBEP personnel and other personnel duly authorized by the TBEP, as well as by federal personnel.

c) To maintain and file with the TBEP such progress, fiscal and other reports as the TBEP may require within the period of this agreement. Such reporting requirements must be reasonable given the scope and purpose of this agreement.

d) To include these aforementioned audit and record keeping requirements in all approved subcontracts.

11. Retention of Records.

The COUNTY agrees:

a) To retain all records, financial records, supporting documents, statistical records, and any other documents (including electronic storage media) pertinent to this agreement for a minimum period of three (3) years after termination of this agreement or such other period of time as required by 2 CFR § 200.333, or if an audit has been initiated and audit findings have not been resolved at the end of three (3) years, the records shall be retained until resolution of the audit findings.

b) The TBEP shall have full access to and the right to examine any of said records and documents during said retention period.

12. Public Access to Records.

The COUNTY acknowledges that all said documents regarding the PROJECT, as well as all of the documents, papers, letters or other material prepared and completed, made or received in conjunction with this agreement, are subject to the disclosure requirements of Chapter 119, Florida Statutes, unless exempt thereby, and shall be maintained and made available to the public at the COUNTY's custodial address, to-wit: 5502 33rd Avenue Drive West, Bradenton, FL 34209.

13. Period of Agreement.

This agreement shall end on July 31, 2023, inclusive, or upon satisfactory completion of the PROJECT and subsequent reimbursement to COUNTY, whichever occurs first, unless amended in writing by the parties.

14. Insurance.

The COUNTY shall, at its own expense, maintain during the performance of its services under this agreement adequate comprehensive insurance of not less than the following: worker's compensation, general liability, bodily injury (including contractual), property damage (including contractual), professional liability (including errors and omissions).

15. Indemnification.

Each party hereto agrees that it shall be solely responsible for its own negligence. However, nothing contained herein shall constitute a waiver by either party of its sovereign immunity or the provisions of Section 768.28, F.S. Further, nothing herein shall be construed as consent by either party to be sued by third parties in any manner arising out this AGREEMENT or contracts related thereto.

16. Members Liability.

No covenant, stipulation, obligation, or agreement contained herein shall be deemed to be a covenant, stipulation, obligation, or agreement of any present or future member of the governing body or agent or employee of TBEP or the Board, nor any official executing this agreement shall be liable personally or be subject to any accountability for reasons of execution by the TBEP of this agreement or any act pertaining thereto.

17. Termination.

a) Termination at will

This agreement may be terminated by either party upon no less than fifteen (15) calendar days' notice, without cause. Said notice shall be delivered by certified mail, return receipt requested, or in person with proof of delivery.

b) Termination because of Lack of Funds

In the event funds to finance this agreement become unavailable, the TBEP or COUNTY may terminate the agreement upon no less than seventy-two (72) hours' notice in writing to the other Party. Said notice shall be delivered by certified mail, return receipt requested, or in person with proof of delivery. The TBEP shall be the final authority as to the availability of funds.

c) Termination for Breach

Unless a breach is waived, either Party may, by written notice to the other Party, terminate this agreement upon no less than seventy-two (72) hours' notice. Said notice shall be delivered by certified mail, return receipt requested, or in person with proof of delivery. Waiver of breach of any provisions of this agreement shall not be deemed to be a waiver of any other breach and shall not be construed to be a modification of the terms of this agreement. The provisions herein do not limit either Party's right to remedies at law or to damages.

d) Termination at End of Agreement

In the event this agreement is terminated under paragraphs a through c supra, all payments due either party on the effective day of termination, pursuant to the provisions of this Agreement shall be reconciled within sixty (60) days of the effective date of termination.

18. Suspension.

a) Reasonable Cause

The TBEP may, for reasonable cause, temporarily suspend the use of funds by the COUNTY pending corrective action, or pending a decision of terminating the agreement. Reasonable cause is such cause as would compel a reasonable person to suspend the use of funds pursuant to this agreement; it includes, but is not limited to, the COUNTY'S failure to permit inspection of records, or to provide reports, or to rectify deficiencies noted by the TBEP within the time specified by the TBEP, or to utilize funds as agreed in this agreement, or such other cause as might constitute breach of any of the terms of this agreement.

b) The TBEP may prohibit the COUNTY from receiving further payments and may prohibit the COUNTY from incurring additional obligations of funds. The suspension may apply to any part, or to all of the COUNTY'S obligations.

c) To suspend operations of the COUNTY, the TBEP will notify the COUNTY in writing by certified mail of: the action taken, the reason(s) for such action; and the conditions of the suspension. The notification will also indicate: what corrective actions are necessary to remove the suspension.

19. Availability of Funds.

The performance by TBEP and the COUNTY under this agreement shall be subject to and contingent upon the availability of moneys lawfully appropriated and applicable for the purposes of this agreement.

20. Modification of Agreement.

This agreement represents the entire agreement of the parties. Any alterations, variations, changes, modifications or waivers of provisions of this agreement shall only be valid when they have been reduced to writing, duly signed by each of the parties hereto, and attached to the original of this agreement.

21. Assignment.

This agreement may not be assigned by either party without the expressed written consent of the other. The parties each bind itself, its successors, assigns, and legal representatives to the other party hereto and to the successors, assigns, and legal representatives of such other party in respect to all covenants, agreements, and obligations contained herein.

22. Subcontractors.

The COUNTY shall ensure that all subcontractors comply with the terms of this Agreement including, but not limited to, sections 7, 8, 10, 11, 12 and the Exhibits and Attachments thereto.

23. Covenant Against Contingent Fees.

The COUNTY assures that no person or selling agency has been employed or retained to solicit or secure this subagreement upon an agreement or understanding for a commission, percentage, brokerage or contingent fee excepting bona fide employees or bona fide established commercial or selling agencies maintained by the COUNTY for the purpose of securing business. For breach or violation of this assurance, the TBEP shall have the right to annul this agreement without liability or, at its discretion, to deduct from the subagreement price or consideration, or otherwise recover the full amount of such commission, percentage, brokerage or contingent fee.

24. Gratuities.

(a) If the TBEP finds after a notice and hearing, that the COUNTY or any of the COUNTY'S agents or representatives offered or gave gratuities (in the form of entertainment, gifts or otherwise) to any official, employee or agent of the TBEP may, by written notice to the COUNTY, terminate this agreement.

(b) In the event this agreement is terminated as provided in paragraph (a), the TBEP may pursue the same remedies against the COUNTY as it could pursue in the event of a breach of this agreement by the COUNTY.

25. Notices.

All notices and other communications received or permitted to be given under the agreement shall be in writing and shall be deemed to have been duly given if delivered personally in hand, via email, or mailed certified mail, return receipt requested, postage prepaid on the date posted and addressed to the appropriate party at the following address or such other address as may be given to the parties:

- a) Damon Moore, Division Manager
Manatee County Parks & Natural Resources – Ecological & Marine Services
5502 33rd Avenue Drive West
Bradenton, FL 34209
damon.moore@mymanatee.org

- b) Maya Burke, Science Policy Coordinator
Tampa Bay Estuary Program
263 13th Avenue S., Suite 350
St. Petersburg, Florida 33701
mburke@tbep.org

26. Remedies.

Unless otherwise provided in this agreement, all claims, counter-claims, disputes and other matters in question between the TBEP and the COUNTY arising out of, or relating to, this agreement or the breach of it will be decided by arbitration if the parties mutually agree, or in a court of competent jurisdiction within Manatee County, Florida.

27. Waiver of Breach.

A waiver by either party of any breach of violation of any provision of this agreement shall not operate, or be construed to be, a waiver of any subsequent breach of the same or other provisions hereof.

28. Governing Laws.

Nothing in this agreement shall be effective if contrary to Federal or Florida law.

This agreement and the rights and obligations of the parties hereto shall be governed and construed according to the laws of the State of Florida.

29. Specific Grant Information:

2 CFR § 200.331(a)(1) requires certain specific information to be included in this agreement. Such information is as follows:

- a) Subrecipient name: Manatee County, a political subdivision of the State of Florida
- b) Subrecipient's unique entity identifier: 59-6000727
- c) Federal Award Identification Number (FAIN): 00D70018

- d) Federal Award Date of award to the recipient by the Federal agency: 08/23/2018
- e) Subaward Period of Performance Start and End Date: 09/01/2018 - 07/31/2023
- f) Amount of Federal Funds Obligated by this action by the pass-through entity to the subrecipient: \$271,430.00
- g) Total Amount of Federal Funds Obligated to the subrecipient by the pass-through entity including the current obligation: \$271,430.00
- h) Total Amount of the Federal Award committed to the subrecipient by the pass-through entity; \$271,430.00
- i) Federal award project description, as required to be responsive to the Federal Funding Accountability and Transparency Act (FFATA): Gulf Coast Ecosystem Restoration Council Comprehensive Plan Component (RESTORE). This action approves an award in the amount of \$1,459,909 for the Tampa Bay Estuary Program to advance protection and restoration of Tampa Bay by addressing issues such as invasive species (Cockroach Bay, Robinson Preserve, Copeland Park), habitat restoration (Fort Desoto, Robinson Preserve) and climate change (Biosolids) identified in the Charting the Course, a Comprehensive Conservation and Management Plan for Tampa Bay.
- j) Name of Federal awarding agency, pass-through entity, and contact information for awarding official of the Pass-through entity:

Federal Awarding Agency: Gulf of Mexico Program, U.S. Environmental Protection Agency, Region 4
Pass-Through Entity: Tampa Bay Estuary Program
Contact Information for the Awarding Official of the Pass-Through Entity: Maya Burke, Science Policy Coordinator, 263 13th Avenue South, Saint Petersburg, FL 33701; 727-893-2765; mburke@tbep.org
- k) CFDA Number and Name; the pass-through entity must identify the dollar amount made available under each Federal award and the CFDA number at time of disbursement:
CFDA Number: 66.130
CFDA Name: Gulf Coast Ecosystem Restoration Council Comprehensive Plan Component (RESTORE)
Total Dollar Amount Available Under this Federal Award: \$1,459,909.00
- l) Identification of whether the award is R&D: No
- m) Indirect cost rate for the Federal award: None.

IN WITNESS WHEREOF, the parties have caused these presents to be duly executed, as of the day and year indicated below.

Tampa Bay Estuary Program

BY: _____

Ed Sherwood, Executive Director

ATTEST: _____

Federal Employer I.D. Number: 59-3501959

MANATEE COUNTY, a political subdivision of the State of Florida

BY: its Board of County Commissioners

Stephen R. Jonsson, Chairperson

ATTEST: ANGELINA COLONNESO
CLERK OF THE CIRCUIT COURT AND COMPTROLLER

By: _____
(Deputy Clerk)

Federal Employer I.D. Number: 59-6000727

EXHIBIT A
Scope of Work

MANATEE COUNTY
ROBINSON PRESERVE EXPANSION PROJECT

OBJECTIVE

This component of the Tampa Bay Estuary Program (TBEP) project will re-establish high quality coastal upland habitats on approximately 14.8 acres within Robinson Preserve Expansion.

PROJECT DESCRIPTION

The overall Robinson Preserve Expansion component entails the creation of a large matrix of estuarine and upland habitats from former farmlands within the bounds of recently acquired portions of Robinson Preserve located at the junction of two major estuarine systems; Sarasota Bay and Tampa Bay. The 150-acre expansion area is currently providing limited ecosystem services after being used for five decades as a sod and row crop operation, abandoned and heavily invaded by non-native species over a decade, and then used to stage fill dirt for a golf course and residential development.

Restoring ecological function of this 14.8-acre portion of the 150-acre site will be achieved by implementing a four-year system that consists of pre-planting adaptive management, intensive re-planting with habitat specific plants, and post planting habitat establishment period adaptive management (HEPAM). Successful implementation of this system will result in target habitats established to the extent they are at a relatively stable state and capable of self-sufficiency with normal land management maintenance. The habitats acreage will be established as follows: 4.42 acres of Live Oak Hammock, 4.64 acres of Pine Flatwoods, 2.9 acres of Coastal Shrub Hammock, and 2.81 acres of Coastal Tree Hammock.

PROJECT TASKS

Task 1 Pre-planting Habitat Establishment Period Adaptive Management (HEPAM) Events

Conduct a series of pre-planting HEPAM events. HEPAM events consist of vegetation control by selective herbicide application or hand removal to prevent regrowth of exotic species and prepare areas for planting as determined appropriate by the County Project Manager.

Deliverables:

- Semi-annual Progress Reports
- Annual Observational Data Reports, consistent with ATTACHMENT 1 – OBSERVATIONAL DATA PLAN and ATTACHMENT 2 – DATA MANAGEMENT PLAN
- Treatment Reports

Budget: \$ 11,000.00

Task 2 Plant and Seed Installations

The County shall develop and implement a planting plan for native vegetation. This will include planting a re-establishing desirable habitat. The site will be replanted with a diverse assemblage of appropriate native plants.

Deliverables:

- Planting and Seed Installation Plans/Specifications
- Planting Completion Reports

Budget: \$ 205,930.00

Task 3 Post Planting Habitat Establishment Period Adaptive Management (HEPAM) Events

Conduct a series of post planting HEPAM events to foster establishment of the work area towards its restoration goal. HEPAM events consist of vegetation control by selective herbicide application or hand removal to prevent regrowth of exotic species and exhaust the seed bank.

Deliverables:

- Semi-annual Progress Reports
- Annual observational data reports, consistent with ATTACHMENT 1 – OBSERVATIONAL DATA PLAN and ATTACHMENT 2 – DATA MANAGEMENT PLAN
- Treatment Reports

Budget: \$54,500

Task 4 Monitoring and Project Final Report

The County shall prepare a Monitoring and Project Final Report that incorporates results and analysis from Tasks 1 through 3. This will be determined by comparison of baseline data to post-initial treatment data using the Observational Data Plan data collection and analysis methods.

Deliverables:

- Draft Report
- Final Report
- Field Sheets
- Excel file containing field data

Budget: \$0.00 (This task will be completed by County Staff)

PERFORMANCE SCHEDULE

The following tasks are to be completed within the number of months indicated below, counted forward from the date the TBEP issues Notice to Proceed to the COUNTY.

Task Number	Task Description	Start Month	End Month
-	Project Initiation	1	1
1	Pre-Planting HEPAM Events	2	16
2	Planting and Seeding Installations	2	25
3	Post-Planting HEPAM Events	5	47
4	Monitoring and Final Project Report	1	48
-	Project Close-out	47	48

COMPENSATION

The cost to perform the services presented herein on a labor, travel expenses, and direct costs basis not to exceed the total estimated fee of \$271,430.

A detailed budget table showing the costs associated for each task is included on the following pages.

Task Number	Task Description	Costs
1	Pre-Planting HEPAM Events	\$11,000
2	Planting and Seed Installations	\$205,930
3	Post Planting HEPAM Events	\$54,500
4	Monitoring and Final Project Report	\$0
	TOTAL	\$271,430

**ATTACHMENT 1 to EXHIBIT “A”
Observational Data Plan**

Complete documentation, including descriptions of all observational data collection elements will be required by grantees for consideration and approval by the Council prior to Plan implementation. Where applicable, metric units are required in all cases (e.g., horizontal, geospatial, measurements, etc.) except when dealing with vertical datums (i.e., ft. NAVD88).

Project Name: Tampa Bay Estuary Program

Agency: EPA

Current Project Phase: Planning Implementation Post-implementation

Observational Data Plan Element Type (check all that apply):

Planning Implementation Post-implementation

Project Observational Data Plan Point of Contact(s): (name, phone, email)

Gary Raulerson, 727-893-2765, graulerson@tbep.org

Expected observational data collection start and end date for overall project:

9/1/2018 through 7/31/2023

Short description of the project location:

Tampa Bay is on the west-central coast of Florida and is the largest open-water estuary in the state of Florida. The project components are located within the Tampa Bay watershed in Hillsborough, Manatee, and Pinellas Counties.

Short description of the overall project construction features (if applicable):

This project includes quality assurance, pre-monitoring, and implementation activities for five priority water quality and habitat improvement elements located throughout the Tampa Bay watershed, all of which have been vetted by the local government and agency partners participating in the Tampa Bay Estuary Program (TBEP). Activities are proposed throughout the Tampa Bay watershed. More than \$80 million (cash and in-kind) from local, state and federal agencies will be leveraged to amplify the benefits of this project. Each element has been identified by TBEP partners as a priority regional need, and has been vetted and approved by the TBEP Boards:

- Biosolids to Energy (St. Petersburg) – This component of the TBEP project will construct the Biogas Upgrade System (BUS). The BUS is a pressure swing adsorption system that removes contaminants (including carbon dioxide and hydrogen sulfide) from the raw digester gas and concentrates more methane per unit volume of gas to meet natural gas standards. Contaminants are contained within filter media and disposed of at a Class I landfill. The construction plan identifies the BUS as the final portion of the overall project to be built, with completion anticipated in September 2018.
- Coastal Invasive Plant Removal (Hillsborough County) – The purpose of this project is to control category I and II invasive pest plants, as identified by the Florida Exotic Pest Plant Council (FLEPPC), from approximately 263 ha (650 ac) near Cockroach Bay Aquatic Preserve that are owned and/or managed by the Hillsborough County Conservation and Environmental Lands Management Department. A qualified contractor will be hired through the competitive bid process

to conduct an initial treatment that results in 95% control of the plants, followed by one year of quarterly treatment, one year of bi-annual treatment, and one final year with one treatment. This method has been proven to exhaust the seed source and minimize regeneration of non-native species.

- Copeland Park (City of Tampa) – The project is designed to enhance drainage and water quality to the City of Tampa’s Copeland Park 0.7 ha (1.8 ac) stormwater pond, and restore native vegetation to the restored pond shoreline. Specifically, the project scope consists of dredging earthen materials to conduct shoreline restoration, littoral shelf development, and open water habitat. The shoreline will be enhanced with native shallow water plants. Appropriate plants will be installed according to habitat requirements.
- Fort DeSoto Recirculation and Seagrass Recovery (Pinellas County) – This component of the TBEP project will monitor and assess water quality and habitat changes over a three-year period post-construction, and will consist of 1) installation of native vegetation around the newly-constructed circulation cut; 2) creation of a hydrodynamic model of circulation within the vicinity of the cut and embayment over a two-year period; 3) seagrass monitoring for three years as standardized with the Southwest Florida Seagrass Working Group; 4) two years of benthic sampling; 5) water quality (nutrients, chlorophyll, phytoplankton, and other parameters) monitoring for a three-year period including eight sampling events per year; 6) three years of continuous, real-time monitoring of salinity, dissolved oxygen, conductivity, pH, and temperature; and 7) assessment of monitoring results.
- Robinson Preserve Water Quality and Habitat Restoration (Manatee County) – This component of the TBEP project will re-establish high quality coastal upland habitats on approximately 6.0 ha (14.8 ac) of former agricultural land with heavy infestation of invasive exotic vegetation in Manatee County, FL. Ecological function of this portion of the 61 ha (150 ac) site will be achieved by systematically exhausting the seedbank of undesirable plants and replacing them with a mixture of target habitat specific, desirable native species. Target habitats consist of Live Oak Hammock – approximately 1.7 ha (4.4 acres); Pine Flatwoods – approximately 1.9 ha (4.6 ac); Coastal Shrub – approximately 1.2 ha (2.9 ac); and Coastal Hammock – approximately 1.1 ha (2.8 ac) established to the extent they are at a relatively stable state and capable of self- sufficiency with normal land management maintenance to be performed by Manatee County in perpetuity.

Consistency with Local or Regional Planning/Monitoring Efforts (if applicable): The project components were developed by the Management Conference of the TBEP in coordination with the Southwest Florida Regional Ecosystem Restoration Plan (2013).

Overall Project Goals and Objectives: Improvement of the Tampa Bay ecosystem (habitat and water quality) through projects implemented by multiple partners.

Specific Goals and Objectives:

The primary goal (Restore and Conserve Habitat), along with the secondary goal (Restore Water Quality) were selected because of the wide scope of activities that will be undertaken by this project, including invasive species removal, planting of native species, stormwater water quality improvement, and seagrass recovery, which will result in a positive improvement in habitat and water quality.

The primary objective (Restore, Enhance, and Protect Habitats), along with the secondary objective (Restore, Improve and Protect Water Quality) were selected because the TBEP-led projects (once implemented and completed) will utilize invasive species eradication techniques to target removal of non-native species, establish new, native species, improve stormwater treatment, and improve seagrass habitat.

Metrics:

1. Land restoration - Hectares (Acres) restored (HR004)
 - Robinson Preserve
2. Removal of invasives - Hectares (Acres) restored (HR008)
 - Coastal Invasive Plant Removal
3. Wetland restoration - Hectares (Acres) restored (HR013)
 - Copeland Park
 - Ft. DeSoto
4. Monitoring - Hectares (Acres) being monitored (PRM007)
 - Coastal Invasive Plant Removal
 - Copeland Park
 - Ft. DeSoto
 - Robinson Preserve
5. Research – Number of studies reported to management (PRM009)
 - Biosolids to Energy
 - Coastal Invasive Plant Removal
 - Copeland Park
 - Ft. DeSoto
 - Robinson Preserve
6. Economic benefits - Number of jobs created - temporary jobs (COI103)
 - Biosolids to Energy
7. Marine Habitat Restoration – Hectares (Acres) enhanced – SAV (HR007)
 - Ft. DeSoto
8. Reduction of Greenhouse Gas Emissions (GHG001)
 - Biosolids to Energy

Identification of Metrics and Associated Measures/Variables/Parameters and Success Criteria:

Metric 1: Land restoration – Hectares (Acres) Restored (HR004)

- Robinson Preserve

Success Criteria for Metric 1: 6.0 hectares (14.8 acres) restored

Supporting Measures: Upland habitat composition and vegetation characteristics (native and exotic)

Measure/Variable/Parameter 1a: Habitat delineation – The restoration plan for Robinson Preserve includes the restoration of multiple habitat types into an ecosystem mosaic.

Success Criteria for 1a: Three of four target habitats (i.e., Live Oak Hammock, Pine Flatwoods, Coastal Shrub, and Coastal Hammock) are established.

Measure/Variable/Parameter 1b: Exotic vegetation cover – Natural areas within Tampa Bay such as Robinson Preserve are constantly under threat from invasion by exotic plant species, and management for exotic plants will be necessary for the life of the project.

Success Criteria for 1b: Less than 5% of the project site contains non-native and invasive plant species.

Measure/Variable/Parameter 1c: Number and description of effort for maintenance activities – This project component is expected to become self-sustaining (needing low exotic vegetation maintenance and providing an internal seed source for native re-vegetation) several years after project initiation.

Success Criteria for 1c: Three of four target habitats (Live Oak Hammock, Pine Flatwoods, Coastal Shrub, and Coastal Hammock) within the project area appear to be on a trajectory towards being self-sustaining (reduction in needed maintenance).

Metric 2: Removal of invasives (HR008)

- Coastal Invasive Plant Removal

Success Criteria for Metric 2: Invasive plant species controlled on Cockroach Bay Preserve (a 263 ha site in southern Hillsborough County)

Supporting Measures: Exotic vegetation characteristics

Measure/Variable/Parameter 2a: Exotic vegetation cover – Initial intensive management of lands is required to remove and maintain low to no coverage of exotic vegetation.

Success Criteria for 2a: Less than 5% of the project site contains non-native and invasive plant species.

Measure/Variable/Parameter 2b: Number of maintenance activities – This project component is expected to become self-sustaining (needing low exotic vegetation maintenance and providing an internal seed source for native re-vegetation) several years after project initiation.

Success Criteria for 2b: The project area appears to be on a trajectory towards being self-sustaining (indicated by a reduction in needed maintenance events).

Metric 3: Wetland restoration (HR013)

- Copeland Park
- Ft. DeSoto

Success Criteria for Metric 3: Approximately 0.8 ha of wetlands restored (0.7 freshwater ha at Copeland Park, 0.1 ha of intertidal at Ft. DeSoto)

Supporting Measures: Vegetation characteristics (native and exotic)

Measure/Variable/Parameter 3a: Establishment of installed/native vegetation – Proper installation and maintenance of desired vegetation should result in survival and increase in cover.

Success Criteria for 3a: Desirable plant species cover 90% of the project site

Measure/Variable/Parameter 3b: Control of exotic/nuisance vegetation – Persistent exotic and nuisance vegetation needs to be controlled to assist in establishment of native plants.

Success Criteria for 3b: Less than 5% of the project sites contain non-native and invasive plant species.

Metric 4: Monitoring (PRM007)

- Coastal Invasive Plant Removal
- Copeland Park
- Ft. DeSoto
- Robinson Preserve

Success Criteria for Metric 4: Hectares (Acres) being monitored

Supporting Measures: Data from monitoring reports

Measure/Variable/Parameter 4a: Estimate of studied area – Multiple impacted and natural areas will be monitored to understand outcomes of these projects and enable iterative management as needed.

Success Criteria for 4a: All project areas for monitoring are identified.

Measure/Variable/Parameter 4b: Number of monitoring events – Project monitoring needs to occur on a regularly scheduled basis to ensure criteria are being met or to determine needed corrected action.

Success Criteria for 4b: All projects are monitored on schedule.

Metric 5: Research (PRM009)

- Biosolids to Energy
- Coastal Invasive Plant Removal
- Copeland Park
- Ft. DeSoto
- Robinson Preserve

Success Criteria for Metric 5: Reports to management are timely and provide information to support and inform management decisions. Information within reports will cover all activities completed, challenges encountered, any adjustments to the project schedule, and next period goals.

Supporting Measures: Proof of quality of reports

Measure/Variable/Parameter 5a: Peer reviewed publications or white papers – Multiple components of this project have potential for professional dissemination, including synthesis reports (or other white papers) or peer-reviewed publications.

Success Criteria for 5a: One peer-reviewed publication and/or one white paper related to this project, including review by regional advisory committee as appropriate.

Measure/Variable/Parameter 5b: Number of monitoring events – Regular monitoring is necessary to provide the quality of data required for publications.

Success Criteria for 5b: All projects are monitored on schedule. Reports, articles, published technical reports, and presentations are provided as appropriate.

Metric 6: Economic benefits (COI103)

- Biosolids to Energy

Success Criteria for Metric 6: 5 jobs created

Supporting Measures: Economic information from reports

Measure/Variable/Parameter 6a: Number of jobs – The multiple components of this project have the potential to create several temporary positions.

Success Criteria for 6a: The equivalent of 5 temporary, full-time jobs are created for a period of 24 months during the project period.

Metric 7: Marine Habitat Restoration – SAV (HR007)

- Ft. DeSoto

Success Criteria for Metric 7: Approximately 81 ha (200 ac) of SAV enhanced

Supporting Measures: Creation of a hydrodynamic model of circulation, seagrass monitoring, benthic sampling, water quality monitoring, real-time water monitoring

Measure/Variable/Parameter 7a: Hydrodynamic circulation model – A model for hydrodynamic circulation of the local area impacted by the circulation cut will be created

Success Criteria for 7a: Creation of a model of the circulation within the vicinity of the cut and embayment

Measure/Variable/Parameter 7b: Seagrass transect monitoring – Annual seagrass transect monitoring will aid in assessment of habitat change.

Success Criteria for 7b: Seagrass monitoring for 3 years as standardized with the SW Florida Seagrass Working Group.

Measure/Variable/Parameter 7c: Aerial seagrass analysis – Biennial interpretation of aerial photography will assist in analysis of large-scale ecosystem changes.

Success Criteria for 7c: Bi-annual seagrass monitoring for 2 cycles as conducted by the Southwest Florida Water Management District.

Measure/Variable/Parameter 7d: Benthic sampling – Annual benthic monitoring will assist in analysis of impacts of improved circulation to system.

Success Criteria for 7d: 2 years of benthic sampling at the site

Measure/Variable/Parameter 7e: Water Quality Monitoring – Water quality monitoring will assist in analysis of impacts of improved circulation to system.

Success Criteria for 7e: Three years of water quality monitoring (nutrients, chlorophyll, phytoplankton and other parameters)

Measure/Variable/Parameter 7f: Telemetered water quality monitoring – Real-time water quality monitoring will assist in analysis of impacts of improved circulation to system.

Success Criteria for 7f: Three years of continuous, real-time monitoring of salinity, dissolved oxygen, conductivity, pH, and temperature data.

Metric 8: Reduction of Greenhouse Gas Emissions (GHG001)

- Biosolids to Energy

Success Criteria for Metric 8: 5,147 tons (4,668 metric tons) of greenhouse gases removed annually

Supporting Measures: Calculation of CO₂ reduction by use of Biogas relative to Diesel in vehicle fleet for City of St. Petersburg

Measure/Variable/Parameter 8a: Estimation of CO₂ reduction – The amount of CO₂ offset by using biogas instead of diesel in City of St. Petersburg fleet vehicles will be estimated.

Success Criteria for 8a: As calculated, an estimated 5,147 tons (4,668 metric tons) of CO₂ are removed annually.

Identification and Discussion of the Reference Sites/Conditions:

Metric 1: Measure 1a: Land Restoration-Habitat Delineation (Robinson) – A nearby protected area with relatively intact restored coastal upland habitats such as Riverview Point Preserve (Manatee County) for hammocks and Cockroach Creek (Hillsborough County) for pine flatwoods) will be used as a standard for habitat data.

Metric 1: Measure 1b: Land Restoration-Exotic Vegetation Cover (Robinson) – A nearby protected area with relatively intact restored coastal upland habitats such as Riverview Point Preserve (Manatee County) for hammocks and Cockroach Creek (Hillsborough County) for pine flatwoods) will be used as a standard for vegetative data.

Metric 1: Measure 1c: Land Restoration-Maintenance Activities (Robinson) – A nearby protected area with relatively intact restored coastal upland habitats such as Riverview Point Preserve (Manatee County) for hammocks and Cockroach Creek (Hillsborough County) for pine flatwoods) will be used as a standard for needed maintenance activities.

Metric 2: Measure 2a: Removal of Invasives-Exotic Vegetation Cover (Coastal Invasives) – A nearby protected area with relatively intact coastal upland habitats (within Terra Ceia Aquatic Preserve) will be used as a standard for exotic vegetation occurrence.

Metric 2: Measure 2b: Removal of Invasives-Number of maintenance activities (Coastal Invasives) - A nearby protected area with relatively intact coastal upland habitats (within Terra Ceia Aquatic Preserve) will be used as a standard for exotic vegetation occurrence.

Metric 3: Measure 3a: Wetland Restoration-Native Vegetation Establishment (Copeland Park, Ft. DeSoto)

- Copeland Park is in a highly urbanized area, and relatively pristine comparative sites are lacking within the vicinity. Robert Cole and Herbert Carrington Ponds, approximately 6 km (4 mi) north of Copeland Park, are being examined as potential urbanized reference sites [with](#) monitoring and maintenance information available from the City of Tampa. Additionally, the Southwest Florida Water Management District (SWFWMD) recently completed work similar to what will occur at Copeland Park (dredging, native vegetation establishment) at Robles Park (also in the City of Tampa) approximately 9 km (5.5 mi) to the south that could be used for as a newly restored reference site.
- The Critical Coastal Habitat Assessment (CCHA, a TBEP-lead project) includes a long-term vegetation transect within Ft. DeSoto Park. Data from the CCHA will be used for comparison to the vegetation establishment project on the causeway.

Metric 3: Measure 3b: Wetland Restoration-Exotic Vegetation Cover (Copeland Park, Ft. DeSoto)

- Copeland Park is in a highly urbanized area, and relatively pristine comparative sites are lacking within the vicinity. Mill and Forest Lakes, approximately 5 km (3 mi) north of Copeland Park, are being examined as potential semi-natural reference sites and are monitored regularly by Lakewatch. Additionally, the Southwest Florida Water Management District recently completed work similar to what will occur at Copeland Park (dredging, native vegetation establishment) at Robles Park (also in the City of Tampa) approximately 9 km (5.5 mi) to the south that could be used for as a newly restored reference site.
- The Critical Coastal Habitat Assessment (CCHA, a TBEP-lead project) includes a long-term vegetation transect within Ft. DeSoto Park. Data from the CCHA will be used for exotic invasion comparison to the project on the causeway.

Metric 4: Measure 4a: Monitoring-Estimate of Studied Area (all except Biosolids) – N/A

Metric 4: Measure 4b: Monitoring-Number of Monitoring Events (all except Biosolids) – N/A

Metric 5: Measure 5a: Research-Number of Reports (All) – N/A

Metric 5: Measure 5b: Research-Number of Monitoring Events (All) – N/A

Metric 6: Measure 6a: Economic Benefits-Number of Temporary Jobs (Biosolids) – N/A

Metric 7: Measure 7a: Marine Habitat Restoration- Hydrodynamic model – N/A

Metric 7: Measure 7b: Marine Habitat Restoration-Seagrass transect monitoring – A previously established and monitored transect to the north and other appropriate existing transects within lower Tampa Bay will be used as a standard for SAV characteristics.

Metric 7: Measure 7c: Marine Habitat Restoration-Aerial seagrass analysis – SWFWMD seagrass maps from early 2016 and prior (generally produced on a biennial basis) will be assessed for regional gains and losses of SAV.

Metric 7: Measure 7d: Marine Habitat Restoration-Benthic sampling – Recent samples taken during routine monitoring programs (by the Environmental Protection Commission of Hillsborough County and others) within similar habitats in Tampa Bay will be used as a standard for benthic characteristics.

Metric 7: Measure 7e: Marine Habitat Restoration-Water Quality Monitoring – Recent samples taken during routine monitoring programs (by Pinellas County and others) within similar habitats in Tampa Bay will be used as a standard for water quality characteristics.

Metric 7: Measure 7f: Marine Habitat Restoration-Real-time water monitoring – Recent samples taken during routine monitoring programs (by Pinellas County and others) within similar habitats in Tampa Bay will be used as a standard for water quality characteristics.

Metric 8 Measure 8a: Estimation of CO₂ reduction – N/A

Baseline Condition Sampling/Data Mining Plan:

As described below, various existing data sets were assessed for relevance to the project elements and will be used (in coordination with pre-implementation sampling) to establish baseline conditions. Recent Land Use Land Cover (LULC) maps created by SWFWMD and updated Florida Managed Areas maps from the Florida Natural Areas Inventory (FNAI, www.fnai.org) will provide general information regarding habitats on the sites.

Metric 1: Measure 1a: Land Restoration-Habitat Delineation (Robinson) – The site will consist of low vegetative diversity dominated by undesirable species at the commencement of this project element, therefore the baseline condition is no desirable vegetation. Manatee County regularly conducts vegetation surveys on their protected areas. The nearby Perico Preserve Restoration (also a restoration of former agricultural land) is considered to be a recent successful coastal upland restoration project and will be used as a comparative site for an established habitat mosaic.

Metric 1: Measure 1b: Land Restoration-Exotic Vegetation Cover (Robinson) – The site will be bare ground at the commencement of this project element, therefore the baseline condition is no vegetation. The nearby Perico Preserve Restoration (also a restoration of former agricultural

land) is considered to be a recent successful coastal upland restoration project and will be used as a comparative site regarding amount of exotic vegetation.

Metric 1: Measure 1c: Land Restoration-Maintenance Activities (Robinson) – The site will be bare ground at the commencement of this project element, therefore the baseline condition is no vegetation with potential for exotic revegetation. The nearby Perico Preserve Restoration (also a restoration of former agricultural land) is considered to be a recent successful coastal upland restoration project and will be used as a comparative site for number of maintenance activities.

Metric 2: Measure 2a: Removal of Invasives-Exotic Vegetation Cover (Coastal Invasives) – Pre-project assessments of amount (species, cover) of invasive vegetation will be conducted. Information from other nearby recent invasive removal projects will be assessed for relevance.

Metric 2: Measure 2b: Number of maintenance activities (Coastal Invasives) – Pre-project assessments of amount (species, cover) of invasive vegetation will be conducted. Chronologies of efforts conducted on other nearby recent invasive removal projects will be assessed for relevance.

Metric 3: Measure 3a: Wetland Restoration-Native Vegetation Establishment (Copeland Park, Ft. DeSoto) – Prior to native plant installation, shoreline condition (current extent of native and exotic vegetation) will be assessed through baseline transect monitoring.

Metric 3: Measure 3b: Wetland Restoration-Exotic Vegetation Cover (Copeland Park, Ft. DeSoto) – Shoreline condition (current extent of native vegetation) will be assessed through baseline transect monitoring. At Ft. DeSoto, a long-term vegetation transect has been established as part of the CCHA. Data from the CCHA will be used for exotic invasion comparison to the project on the causeway.

Metric 4: Measure 4a: Monitoring-Estimate of Studied Area (all except Biosolids) – N/A

Metric 4: Measure 4b: Monitoring-Number of Monitoring Events (all except Biosolids) – N/A

Metric 5: Measure 5a: Research-Number of Reports (All) – N/A

Metric 5: Measure 5b: Research-Number of Monitoring Events (All) – N/A

Metric 6: Measure 6a: Economic Benefits-Number of Temporary Jobs (Biosolids) – N/A

Metric 7: Measure 7a: Marine Habitat Restoration- Hydrodynamic model – N/A

Metric 7: Measure 7b: Marine Habitat Restoration-Seagrass transect monitoring – Two seagrass transects were established within the study area during mid-2016 (the approximate time of opening of the circulation cut). Data from these transects will be used as baseline information.

Metric 7: Measure 7c: Marine Habitat Restoration-Aerial seagrass analysis – SWFWMD maps interpreting seagrass beds from early 2016 will be used for baseline analysis.

Metric 7: Measure 7d: Marine Habitat Restoration-Benthic sampling – Baseline benthic samples were retrieved during 2016 and will serve as baseline data.

Metric 7: Measure 7e: Marine Habitat Restoration-Water Quality Monitoring – Historic water quality sampling conducted by Pinellas County in the region and in similar habitats in Tampa Bay will be used as a baseline for water quality characteristics.

Metric 7: Measure 7f: Marine Habitat Restoration-Real-time water monitoring – Historic water quality sampling conducted by Pinellas County in the region and in similar habitats in Tampa Bay will be used as a baseline for water quality characteristics.

Metric 8 Measure 8a: Estimation of CO₂ reduction – The City of St. Petersburg documents the amount of diesel fuel used by its fleet on an annual basis. This data can be converted to a carbon dioxide equivalent that can be compared to use and CO₂ offset of biogas as an alternative fuel.

Potential Corrective Actions:

Metric 1: Measure 1a: Land Restoration-Habitat Delineation (Robinson) – Potential corrections (pending available funding) include additional plantings, thinning, watering, and re- calculating expected habitat zones due to anticipated issues with sea level rise or climate change. **Metric 1:**

Measure 1b: Land Restoration-Exotic Vegetation Cover (Robinson) – Corrective actions (pending available funding) include additional exotic vegetation treatment events, increased planting of native vegetation to maintain dominance, and implementation of prescribed fire events.

Metric 1: Measure 1c: Land Restoration-Maintenance Activities (Robinson) – Maintenance activities will be monitored for inefficiencies (e.g., spraying of too much chemical, application in

unnecessary areas) to help reduce the number of maintenance events.

Metric 2: Measure 2a: Removal of Invasives-Exotic Vegetation Cover (Coastal Invasives) – Potential corrective actions (pending available funding) include additional exotic vegetation treatment events, planting of native vegetation to obtain dominance, and implementation of prescribed fire events.

Metric 2: Measure 2b: Number of maintenance activities (Coastal Invasives) – Maintenance activities will be monitored for inefficiencies (e.g., spraying of too much chemical, application in unnecessary areas, development of plant resistance to chemical, failure to use inadequate adjuvants) to help reduce the number of maintenance events.

Metric 3: Measure 3a: Wetland Restoration-Native Vegetation Establishment (Copeland Park, Ft. DeSoto) – Potential corrections (pending available funding) include additional plantings, thinning, watering, and re-calculating expected habitat zones due to anticipated issues with sea level rise or climate change.

Metric 3: Measure 3b: Wetland Restoration-Exotic Vegetation Cover (Copeland Park, Ft. DeSoto) - Potential corrective actions (pending available funding) include additional exotic vegetation treatment events, and increased planting of native vegetation to maintain dominance.

Metric 4: Measure 4a: Monitoring-Estimate of Studied Area (all except Biosolids) – If it is determined that component elements are not being appropriately monitored, TBEP and its partners will work to ensure those elements receive required analysis.

Metric 4: Measure 4b: Monitoring-Number of Monitoring Events (all except Biosolids) – If it is determined that component elements are not being appropriately monitored, TBEP and its partners will work to ensure those elements receive required analysis.

Metric 5: Measure 5a: Research-Number of Reports (All) – If monitoring reports, peer-reviewed publications, or national presentations are not in production, TBEP and its partners will work to create necessary products.

Metric 5: Measure 5b: Research-Number of Monitoring Events (All) – If it is determined that component elements are not being appropriately monitored, TBEP and its partners will work to ensure those elements receive required analysis.

Metric 6: Measure 6a: Economic Benefits-Number of Temporary Jobs (Biosolids) – N/A

Metric 7: Measure 7a: Marine Habitat Restoration- Hydrodynamic model – If it is determined that work on hydrodynamic model is not progressing satisfactorily, TBEP and its partners will work to identify and solve conflicting issues.

Metric 7: Measure 7b: Marine Habitat Restoration-Seagrass transect monitoring – If it is determined that seagrass monitoring is not occurring according to schedule, TBEP and its partners will work to identify issues and complete monitoring.

Metric 7: Measure 7c: Marine Habitat Restoration-Aerial seagrass analysis – If it is determined that seagrass analysis is not occurring according to schedule, TBEP and its partners will work to identify issues and complete monitoring.

Metric 7: Measure 7d: Marine Habitat Restoration-Benthic sampling – If it is determined that seagrass monitoring is not occurring according to schedule, TBEP and its partners will work to identify issues and complete monitoring.

Metric 7: Measure 7e: Marine Habitat Restoration-Water Quality Monitoring – If it is determined that seagrass monitoring is not occurring according to schedule, TBEP and its partners will work to identify issues and complete monitoring.

Metric 7: Measure 7f: Marine Habitat Restoration-Real-time water monitoring – If it is determined that seagrass monitoring is not occurring according to schedule, TBEP and its partners will work to identify issues and complete monitoring.

Metric 8 Measure 8a: Estimation of CO₂ reduction – Potential corrective actions include assessment of vehicle use powered by biogas relative to diesel to determine if any additional efficiencies can be created.

Observational Data Collection Plan:

Metric 1, Land restoration - Acres restored (HR004)(Robinson):

Measure 1a: Land Restoration-Habitat Delineation (Robinson):

Purpose: Document development and maturation of habitat mosaics after native vegetation is installed. This information will document success criteria and create an 'early warning system' regarding potential issues with vegetation regeneration.

Methods: Random 1-m² quadrats using the Braun-Blanquet (1965) estimation technique and the point-center-quarter method (Cottam and Curtis 1956) will be used within each expected habitat mosaic area as plotted during plant installation and within the reference site as appropriate for vegetation size (i.e., tree height and diameter). Native and exotic vegetation will be identified as practicable, and any trees over 2 m in height will be measured for height and diameter at breast height (dbh).

Schedule/Timing and Frequency: One pre-establishment monitoring event will occur, with quarterly monitoring for years 1-2 (establishment), and bi-annual monitoring for years 3-4 (post-establishment).

Sample Size: Five (5) 1-m² quadrats will be sampled within each habitat type for each sampling event in the restored and control areas. As appropriate, five point-center-quarter measurements will be taken (i.e., significant woody vegetation greater than 2m in height).

Site Locations: The 1-m² quadrats will be located randomly within each of the habitat matrix types.

Quality Assurance and Quality Control: Land management and restoration specialists with significant knowledge of coastal upland species will be involved with all phases of the monitoring. Vegetative coverage estimates will be done by two individuals who will concur regarding BB classification (present and 1-5) for all species. Upon transcription of data into Excel, written and datasheet information will be compared for errors such as omissions, duplications, completion, and to ensure consistency with field collection.

Measure 1b: Land Restoration-Exotic Vegetation Cover (Robinson):

Purpose: Document control of exotic plants after native vegetation is installed. This information will document success criteria and create an 'early warning system' regarding potential issues with vegetation regeneration.

Methods: Random 1-m² quadrats using the Braun-Blanquet (1965) estimation technique and the point-center-quarter method (Cottam and Curtis 1956) will be used within each expected habitat mosaic area as plotted during plant installation and within the reference site as appropriate for vegetation size (i.e., tree height and diameter). Exotic vegetation will be identified as practicable, and any trees over 2 m in height will be measured for height and diameter at breast height (dbh). Exotic coverage will also be assessed visually to rapidly identify areas requiring additional treatment.

Schedule/Timing and Frequency: One pre-establishment monitoring event will occur, with quarterly monitoring for years 1-2 (establishment), and bi-annual monitoring for years 3-4 (post-establishment).

Sample Size: Five (5) 1-m² quadrats will be sampled within each habitat type for each sampling event in the restored and control areas. As appropriate, five point-center-quarter measurements will be taken (i.e., significant woody vegetation greater than 2m in height).

Site Locations: The 1-m² quadrats will be located randomly within each of the habitat matrix types.

Quality Assurance and Quality Control: Land management and restoration specialists with significant knowledge of coastal upland species will be involved with

all phases of the monitoring. Vegetative coverage estimates will be done by two individuals who will concur regarding BB classification (present and 1-5) for all species. Upon transcription of data into Excel, written and datasheet information will be compared for errors such as omissions, duplications, completion, and to ensure consistency with field collection.

Measure 1c: Land Restoration-Maintenance Activities (Robinson)

Purpose: Document reduction of needed maintenance activities (exotics control, re-vegetation) over time.

Methods: Compile report of amount of effort (hours, amount of herbicide, types of equipment used) expended during maintenance events.

Schedule/Timing and Frequency: Annual report

Sample Size: n/a

Site Locations: n/a

Quality Assurance and Quality Control: Management activities will be reviewed for accuracy by local land manager.

Metric 2, Removal of invasives - Acres restored (HR008)(Coastal Invasives):

Measure 2a: Removal of Invasives-Exotic Vegetation Cover (Coastal Invasives)

Purpose: To identify potential issues with invasive and exotic plants within the project site and provide guidance on adaptive management.

Methods: Exotic coverage will initially be assessed visually to identify areas requiring additional treatment. For confirmation, randomized meter-square (m²) quadrats using the Braun-Blanquet (1965) estimation technique and the point-center-quarter method (Cottam and Curtis 1956) will be used in the project area and reference site as appropriate for vegetation size (i.e., tree height and diameter). Exotic vegetation will be identified as practicable and any exotic trees over 2 m in height will be measured for height and dbh.

Schedule/Timing and Frequency: Surveys will be conducted quarterly for years 1-2 (Initial Treatment Phase), and bi-annually for years 3-4 (Maintenance Phase).

Sample Size: 10 random 1-m² quadrats will be assessed during each survey.

Site Locations: Quadrats will be located within exotic control area and reference site.

Quality Assurance and Quality Control: Visual inspections and monitoring will be conducted by management professionals with significant exotic plant identification experience. Upon transcription of data into Excel, raw data and spreadsheet information will be compared for errors such as omissions, duplications, completion, and to ensure consistency with field collection.

Measure 2b: Number of maintenance activities (Coastal Invasives):

Purpose: Document reduction of needed maintenance activities (exotics control, re-vegetation) over time.

Methods: Compile report of amount of effort (hours, amount of herbicide, types of equipment used) expended during maintenance events.

Schedule/Timing and Frequency: Annual report

Sample Size: n/a

Site Locations: n/a

Quality Assurance and Quality Control: Management activities will be reviewed for accuracy by local land manager.

Metric 3, Wetland restoration - Acres restored (HR013)(Copeland Park and Ft. DeSoto):

Measure 3a: Wetland Restoration-Native Vegetation Establishment (Copeland Park, Ft. DeSoto):

Purpose: Document development and maturation of habitats after native vegetation is installed. This information will document success criteria and create

an 'early warning system' regarding potential issues with vegetation regeneration.

Methods: Random 1-m² quadrats using the Braun-Blanquet (1965) estimation technique and the point-center-quarter method (Cottam and Curtis 1956) will be used within each expected habitat mosaic area as plotted during plant installation and within the reference site as appropriate for vegetation size (i.e., tree height and diameter). Native and exotic vegetation will be identified as practicable, and any trees over 2 m in height will be measured for height and diameter at breast height (dbh).

Schedule/Timing and Frequency: One pre-establishment monitoring event will occur, with quarterly monitoring for years 1-2 (establishment), and bi-annual monitoring for years 3-4 (post-establishment).

Sample Size: Five (5) 1-m² quadrats will be sampled within each site for each sampling event in the restored and control areas. As appropriate, five point-center-quarter measurements will be taken (i.e., significant woody vegetation greater than 2m in height).

Site Locations: The 1-m² quadrats will be located randomly within each of the sites.

Quality Assurance and Quality Control: Land management and restoration specialists with significant knowledge of native and exotic Florida plant species will be involved with all phases of the monitoring. Vegetative coverage estimates will be done by two individuals who will concur regarding BB classification (present and 1-5) for all species. Upon transcription of data into Excel, written and datasheet information will be compared for errors such as omissions, duplications, completion, and to ensure consistency with field collection.

Measure 3b: Wetland Restoration-Exotic Vegetation Cover (Copeland Park, Ft. DeSoto):

Purpose: To identify potential issues with invasive and exotic plants within the project site and provide guidance on adaptive management.

Methods: Exotic coverage will initially be assessed visually to identify areas requiring additional treatment. For confirmation, randomized meter-square (m²) quadrats using the Braun-Blanquet (1965) estimation technique and the point-center-quarter method (Cottam and Curtis 1956) will be used in the project area and reference site as appropriate for vegetation size (i.e., tree height and diameter). Exotic vegetation will be identified as practicable and any exotic trees over 2 m in height will be measured for height and dbh.

Schedule/Timing and Frequency: Surveys will be conducted quarterly for years 1-2 (establishment), and bi-annually for years 3-4 (post-establishment).

Sample Size: 10 random quadrats will be assessed during each survey.

Site Locations: Quadrats will be located within exotic control area and reference site.

Quality Assurance and Quality Control: Visual inspections and monitoring will be conducted by management professionals with significant exotic plant identification experience. Upon transcription of data into Excel, raw data and spreadsheet information will be compared for errors such as omissions, duplications, completion, and to ensure consistency with field collection.

Metric 4, Monitoring - Acres being monitored (PRM007)(Robinson, Coastal Invasives, Copeland, Ft. DeSoto):

Measure 4a: Monitoring-Estimate of Studied Area (all except Biosolids):

Purpose: To identify restored and enhanced areas within the project.

Methods: GIS data (shapefiles) created in NAD83 Harn projection for each of the elements will be collated to determine actual total project area restored and enhanced. Polygons will either be created from data points captured with on-the-ground GIS instrumentation (Garmin or similar) or interpreted from aerial

photography (such as produced by SWFWMD for the biennial seagrass mapping effort).

Schedule/Timing and Frequency: Production of this data will occur within the 2nd year of each element.

Sample Size: n/a

Site Locations: n/a

Quality Assurance and Quality Control: Polygons will be created by professionals conversant with the relevant GPS and GIS technology and will be cross-checked for accuracy after production by land managers with significant knowledge of the individual sites.

Measure 4b: Monitoring-Number of Monitoring Events (all except Biosolids):

Purpose: To ensure that monitoring and reporting for the project elements is being conducted in a timely manner to allow for adaptive management steps as needed within the project.

Methods: An electronic calendar (Google, Outlook or similar) will be shared among the project partners, establishing timelines for sampling. This will be updated as monitoring reports are received. Information from this calendar will be tallied to assess timeliness of monitoring.

Schedule/Timing and Frequency: Information will be summarized on an annual basis.

Sample Size: N/A

Site Locations: N/A

Quality Assurance and Quality Control: Summaries of monitoring events will be reviewed by relevant site managers. Potential issues regarding monitoring (including data analysis) will be discussed on a bi-annual basis.

Metric 5, Research – Number of studies reported to management (PRM009)(All):

Measure 5a: Research-Number of Reports (All):

Purpose: To ensure that reports, presentations, and/or peer-reviewed articles are timely and provide information useful to management decisions for these and other projects.

Methods: A list of reports, presentations, and peer-reviewed articles directly related to the project elements will be created.

Schedule/Timing and Frequency: Annual

Sample Size: N/A

Site Locations: N/A

Quality Assurance and Quality Control: Site managers will review the collated list for accuracy.

Measure 5b: Research-Number of Monitoring Events (All):

Purpose: To ensure that monitoring and reporting for the project elements is being conducted in a timely manner to allow for adaptive management steps as needed within the project.

Methods: An electronic calendar (Google, Outlook or similar) will be shared among the project partners, establishing timelines for sampling. This will be updated as monitoring reports are received. Information from this calendar will be tallied to assess timeliness of monitoring.

Schedule/Timing and Frequency: Information will be summarized on an annual basis.

Sample Size: N/A

Site Locations: N/A

Quality Assurance and Quality Control: Summaries of monitoring events will be reviewed by relevant site managers. Potential issues regarding monitoring (including

data analysis) will be discussed on a bi-annual basis.

Metric 6, Economic benefits - Number of jobs created - temporary jobs (COI103)(Biosolids):

Measure 6a: Economic Benefits-Number of Temporary Jobs (Biosolids):

Purpose: To track economic activity related to construction of the Biosolids to Energy element.

Methods: A list of positions created specifically for or partially funded by this project will be generated using invoicing records and contracting information.

Schedule/Timing and Frequency: Annual

Sample Size: N/A

Site Locations: N/A

Quality Assurance and Quality Control: Site manager will review the collated list for accuracy.

Metric 7, Marine Habitat Restoration – Hectares (Acres) Enhanced (HR007)(Ft. DeSoto)

Measure 7a: Marine Habitat Restoration - Hydrodynamic model (Ft. DeSoto)

Purpose: To understand changes in circulation in Ft. DeSoto estuarine system caused by breach in artificial causeway.

Methods: A hydrodynamic model of the system will be created using best available information within an advanced computational system.

Schedule/Timing and Frequency: Data collection, model creation and report writing will take approximately three years.

Sample Size: TBD based on needs for model input.

Site Locations: In and around the embayment at Ft. DeSoto where the new cut was created.

Quality Assurance and Quality Control: It is anticipated that researchers from a state university who have conducted similar work will create the model. Specialists with significant knowledge of water quality circulation and/or modeling will be involved with all phases of the project. Model runs will be compared against known (current) conditions to ensure accuracy and consistency.

Measure 7b: Marine Habitat Restoration-Seagrass transect monitoring (Ft. DeSoto)

Purpose: To assess changes in seagrass species composition, density, and height.

Methods: Transect monitoring will follow protocols established by the Southwest Florida Seagrass Working Group. This includes estimation of percent cover within 1x1 meter quadrats, species identification, counting of seagrass blades in established sub-plots, and estimation of epiphytic algae coverage of seagrass blades.

Schedule/Timing and Frequency: Annually for three years.

Sample Size: Four transects (one long, three short) within the area of impact (west of causeway) and identical four transects east of the causeway (as a control).

Site Locations: Directly east and west of artificial causeway in relatively close proximity to circulation breach.

Quality Assurance and Quality Control: The TBEP hosts an annual training and alignment event to help ensure that data collected by multiple regional scientists involved in seagrass monitoring is compatible and comparable. Data sheets are cross-checked with spreadsheets by at least two individuals for accuracy and outliers.

Measure 7c: Marine Habitat Restoration- Aerial seagrass analysis (Ft. DeSoto)

Purpose: To assess changes in seagrass aerial coverage over.

Methods: SWFWMD contracts with a private company to produce aerial photographs and interpreted maps of seagrass, tidal flats, and oysters.

Schedule/Timing and Frequency: Biennial in winter (time of greatest water clarity for the region), the next flight for analysis is anticipated in late 2017 or early 2018.

Sample Size: TBD based on needs for field verification of interpreted maps.

Site Locations: The interpreted map includes all of the relevant Tampa Bay study area.

Quality Assurance and Quality Control: Photography is taken between 10 am and 2 pm (to minimize reflectance), with strict requirements for cloud cover, wind, tides, and general clarity. Interpretation is conducted by experienced professionals, and several hundred field verification points are assessed throughout the region to ensure minimization of both false positives and false negatives.

Measure 7d: Marine Habitat Restoration-Benthic sampling (Ft. DeSoto)

Purpose: To assess changes in benthic and sediment composition.

Methods: Following protocols established for Tampa Bay Benthic Monitoring Program (Karlen et al., 2015), including procedures for macrofauna, silt/clay analysis, and sediment chemistry.

Schedule/Timing and Frequency: Annually for two years

Sample Size: 17 samples over two years

Site Locations: West and east of causeway with circulation cut

Quality Assurance and Quality Control: Following protocols established for Tampa Bay Benthic Monitoring Program (Karlen et al., 2015).

Measure 7e: Marine Habitat Restoration-Water Quality Monitoring (Ft. DeSoto)

Purpose: To assess changes in water quality after causeway breach and provide data for circulation model.

Methods: Data on a suite of water quality parameters (physical and chemical), following State of Florida monitoring program protocols implementing Florida Department of Environmental Protection SOPs for surface water quality monitoring.

Schedule/Timing and Frequency: 8 times per year for 3 years

Sample Size: 4 samples per trip

Site Locations: West and east of causeway with circulation cut

Quality Assurance and Quality Control: QAQC for Florida Department of Environmental Protection SOPs for surface water quality monitoring will be followed.

Measure 7f: Marine Habitat Restoration-Real-time water monitoring (Ft. DeSoto)

Purpose: To assess changes in water quality after causeway breach and provide data for circulation model.

Methods: Two telemetered YSI units (or similar) will be deployed within study area, following State of Florida monitoring program protocols implementing Florida Department of Environmental Protection SOPs for surface water quality monitoring.

Schedule/Timing and Frequency: Continuous for three years

Sample Size: Two (two units in lab for calibration consistently switched with units in field to ensure proper readings)

Site Locations: West and east of causeway with circulation cut

Quality Assurance and Quality Control: Units will be cleaned and calibrated on a regular basis. Data will be assessed for outliers and other anomalies, following State of Florida monitoring program protocols implementing Florida Department of Environmental Protection SOPs for surface water quality monitoring.

Metric 8: Reduction of Greenhouse Gas Emissions (Biosolids to Energy)(GHG001)

Measure/Variable/Parameter 8a: Estimation of CO₂ reduction

Purpose: To assess changes in greenhouse gas production related to production

and use of biogas instead of diesel fuel in significant component of City of St. Petersburg fleet.

Methods: Mileage driven by vehicles using biogas will be documented and amount of CO₂ emitted will be compared against the CO₂ equivalent emissions reduced relative to driving the same amount of mileage using diesel vehicles (California Air Resources Board, 2010, 2014).

Schedule/Timing and Frequency: Upon initiation of biogas production, this assessment will be conducted on a bi-annual basis.

Sample Size: 1 (City of St. Petersburg fleet as a whole).

Site Locations: City of St. Petersburg

Quality Assurance and Quality Control: At least two staff for the City of St. Petersburg will review mileage records and calculations and the information will be validated by TBEP staff.

Anticipated Statistical Analysis: Statistical analyses and reporting will enable the incorporation of project information into RAAMS as needed. Initially, all data will be input within a spreadsheet framework (Excel or similar) for analysis (mean, standard error, and graphing). As appropriate, statistical software (R or similar) will be used to generate ANOVA calculations and time-series analyses (with log transformations for percent cover data). Comparisons will be made between control and restored sites.

Metric 1, Land restoration - Hectares (Acres) restored (HR004)(Robinson):

Metric 1: Measure 1a: Land Restoration-Habitat Delineation (Robinson): A species list, average percent cover, species richness, and species diversity (H') will be developed or calculated for each habitat type.

Metric 1: Measure 1b: Land Restoration-Exotic Vegetation Cover (Robinson): A species list will be developed and average percent exotic vegetation cover by species will be calculated for each habitat type.

Metric 1: Measure 1c: Land Restoration-Maintenance Activities (Robinson): n/a

Metric 2, Removal of invasives - Hectares (Acres) restored (HR008)(Coastal Invasives):

Metric 2: Measure 2a: Removal of Invasives-Exotic Vegetation Cover (Coastal Invasives): A species list will be developed and average percent exotic vegetation cover by species will be calculated for each habitat type.

Metric 2: Measure 2b: Number of maintenance activities (Coastal Invasives): n/a

Metric 3, Wetland restoration - Hectares (Acres) restored (HR013)(Copeland Park and Ft. DeSoto):

Metric 3: Measure 3a: Wetland Restoration-Native Vegetation Establishment (Copeland Park, Ft. DeSoto): A species list, average percent cover, species richness, and species diversity (H') will be developed or calculated for each restored and control site.

Metric 3: Measure 3b: Wetland Restoration-Exotic Vegetation Cover (Copeland Park, Ft. DeSoto): A species list will be developed and average percent exotic vegetation cover by species will be calculated for each restored and control site.

Metric 4, Monitoring - Hectares (Acres) being monitored (PRM007)(Robinson, Coastal Invasives, Copeland, Ft. DeSoto):

Metric 4: Measure 4a: Monitoring-Estimate of Studied Area (all except Biosolids):
N/A

Metric 4: Measure 4b: Monitoring-Number of Monitoring Events (all except Biosolids):
N/A

Metric 5, Research – Number of studies reported to management (PRM009)(All):

Metric 5: Measure 5a: Research-Number of Reports (All): N/A

Metric 5: Measure 5b: Research-Number of Monitoring Events (All): N/A

Metric 6, Economic benefits - Number of jobs created - temporary jobs (COI103)(Biosolids):

Metric 6: Measure 6a: Economic Benefits-Number of Temporary Jobs (Biosolids):

N/A

Metric 7, Marine Habitat Restoration – Hectares (Acres) Enhanced (HR007)(Ft. DeSoto)

Metric 7: Measure 7a: Marine Habitat Restoration- Hydrodynamic model – Information on flow patterns, velocities, and timing will be produced by the model.

Metric 7: Measure 7b: Marine Habitat Restoration-Seagrass monitoring – Species composition lists will be developed, average percent cover scores (Braun-Blanquet 1965), average shoot densities, and average shoot height will be compared across seasons and years.

Metric 7: Measure 7c: Marine Habitat Restoration- Aerial seagrass analysis (Ft. DeSoto) – Estimates of coverage (hectares/acres) for dense and patchy seagrasses as defined by SWFWMD (Tomasko et al. 2005) will be produced.

Metric 7: Measure 7d: Marine Habitat Restoration-Benthic sampling – Benthic fauna richness and diversity indices and sediment characteristics (grain size, chemistry) data as described in Karlen et al. (2015) will be produced.

Metric 7: Measure 7e: Marine Habitat Restoration-Water Quality Monitoring – Means for each metric (physical and chemical parameters) will be analyzed by year and season for trends.

Metric 7: Measure 7f: Marine Habitat Restoration-Real-time water monitoring – Means for each physical parameter will be analyzed by year and season for trends.

Metric 8: Reduction of Greenhouse Gas Emissions (Biosolids to Energy)

Measure/Variable/Parameter 8a: Estimation of CO₂ reduction: Year-to-year comparisons of CO₂ equivalent emissions will be analyzed using estimates of before and after use of biogas for a component of the City of St. Petersburg fleet.

Unforeseen Event Contingency:

Metric 1, Land restoration - Hectares (Acres) restored (HR004)(Robinson):

Measure 1a: Land Restoration-Habitat Delineation (Robinson)

Problem: Habitat mosaics do not appear to be on a trajectory towards natural system vegetation characteristics.

Contingency: Additional management actions (potentially including watering, additional native plant installation, prescribed fire, and exotic plant removal) will occur.

Measure 1b: Land Restoration-Exotic Vegetation Cover (Robinson)

Problem: Exotics vegetation occurring on more than 5% of project area.

Contingency: Additional exotics removal events will occur.

Measure 1c: Land Restoration-Maintenance Activities (Robinson)

Problem: Maintenance activities not decreasing over time.

Contingency: Assessment of project and needs will occur to determine what efficiencies can be gained.

Metric 2, Removal of invasives - Hectares (Acres) restored (HR008)(Coastal Invasives):

Measure 2a: Removal of Invasives-Exotic Vegetation Cover (Coastal Invasives)

Problem: Exotics vegetation occurring on more than 5% of project area.

Contingency: Additional exotics removal events will occur.

Measure 2b: Number of maintenance activities (Coastal Invasives)

Problem: Maintenance activities not decreasing over time.

Contingency: Assessment of project and needs will occur to determine what efficiencies can be gained.

Metric 3, Wetland restoration – Hectares (Acres) restored (HR013)(Copeland Park and Ft. DeSoto):

Measure 3a: Wetland Restoration-Native Vegetation Establishment (Copeland Park, Ft. DeSoto)

Problem: Restored habitats do not appear to be on a trajectory towards natural system vegetation characteristics.

Contingency: Additional management actions (potentially including watering, additional native plant installation, and exotic plant removal) will occur.

Measure 3b: Wetland Restoration-Exotic Vegetation Cover (Copeland Park, Ft. DeSoto)

Problem: Exotics vegetation occurring on more than 5% of project area.

Contingency: Additional exotics removal events will occur.

Metric 4, Monitoring - Hectares (Acres) being monitored (PRM007)(Robinson, Coastal Invasives, Copeland, Ft. DeSoto):

Measure 4a: Monitoring-Estimate of Studied Area (all except Biosolids)

Problem: Study area not estimated.

Contingency: Work with partners to create GIS data layers.

Measure 4b: Monitoring-Number of Monitoring Events (all except Biosolids)

Problem: Monitoring not occurring at scheduled intervals.

Contingency: Work with partners to enable consistent monitoring schedule.

Metric 5, Research – Number of studies reported to management (PRM009)(All)

Measure 5a: Research-Number of Reports (All)

Problem: Reports not submitted in consistent manner.

Contingency: Work with partners to enable consistent reporting.

Measure 5b: Research-Number of Monitoring Events (All)

Problem: Monitoring not occurring at scheduled intervals.

Contingency: Work with partners to enable consistent monitoring schedule.

Metric 6, Economic benefits - Number of jobs created - temporary jobs (COI103)(Biosolids)

Measure 6a: Economic Benefits-Number of Temporary Jobs (Biosolids)

Problem: Economic activity difficult to interpret.

Contingency: Work with partner to enable clearer interpretation of economic benefit.

Metric 7: Marine Habitat Restoration – SAV (HR007)(Ft. DeSoto)

Measure/Variable/Parameter 7a: Creation of a hydrodynamic model of circulation

Problem: Hydrodynamic model not re-producing accurate results

Contingency: Work with contractor to improve model

Measure/Variable/Parameter 7b: Seagrass transect monitoring

Problem: Transect data with significant anomalies.

Contingency: Work with monitoring technicians to improve field method implementation.

Measure/Variable/Parameter 7c: Aerial seagrass analysis

Problem: 1) Aerial photographs not satisfactory for GIS analysis; 2) Random quality control field checks indicate more that 5% of sites are false-positive or false-negative.

Contingency: 1) Produce new photographs under preferred conditions; 2) Re-analyze aerial photographs using new field information.

Measure/Variable/Parameter 7d: Benthic sampling

Problem: Monitoring not occurring at scheduled intervals.

Contingency: Work with partners to enable consistent monitoring schedule.

Measure/Variable/Parameter 7e: Water Quality Monitoring

Problem: Monitoring not occurring at scheduled intervals.

Contingency: Work with partners to enable consistent monitoring schedule.

Measure/Variable/Parameter 7f: Real-time water monitoring

Problem: Inconsistent telemetered data.

Contingency: Work with partners to improve delivery and standardization of water quality data.

Metric 8: Reduction of Greenhouse Gas Emissions (GHG001)(Biosolids to Energy)

Measure/Variable/Parameter 8a: Estimation of CO₂ reduction

Problem: Estimates for greenhouse gas reduction estimate not being produced

Contingency: Work with partner to retrieve needed data and create estimates

Data Review and Reporting:

Data will be reviewed internally for completion and submitted to NPS for external review annually. Annual reports will also be developed and submitted in compliance with the grants reporting cycle as outlined in the RESTORE Council Financial Assistance Standard Terms and Conditions and Part IV, Chapter II, Section G of the Recipient Guidance. Following completion of all data collection a final observational data report will be prepared and distributed.

Data will be reviewed and then used to assess and evaluate overall project performance annually. Annual reports will be developed documenting the progress towards project goals and objectives as characterized by the selected metrics/measures and success criteria.

High-Level Budget

Estimated Budget for Observational Data Collection: \$20,000

Metric 1, Land restoration - Hectares (Acres) restored (HR004)(Robinson)

Measure 1a: Land Restoration-Habitat Delineation (Robinson) - \$2,000

Measure 1b: Land Restoration-Exotic Vegetation Cover (Robinson) - \$1,000

Measure 1c: Land Restoration-Maintenance Activities (Robinson) - \$1,500

Metric 2, Removal of invasives - Hectares (Acres) restored (HR008)(Coastal Invasives)

Measure 2a: Removal of Invasives-Exotic Vegetation Cover (Coastal Invasives) - \$1,500

Measure 2b: Number of maintenance activities (Coastal Invasives) - \$1,500

Metric 3, Wetland restoration - Hectares (Acres) restored (HR013)(Copeland Park and Ft. DeSoto)

Measure 3a: Wetland Restoration-Native Vegetation Establishment (Copeland Park, Ft. DeSoto) - \$2,000

Measure 3b: Wetland Restoration-Exotic Vegetation Cover (Copeland Park, Ft. DeSoto) - \$2,000

Metric 4, Monitoring - Hectares (Acres) being monitored (PRM007)(Robinson, Coastal Invasives, Copeland, Ft. DeSoto)

Measure 4a: Monitoring-Estimate of Studied Area (all except Biosolids) - \$500

Measure 4b: Monitoring-Number of Monitoring Events (all except Biosolids) - \$500

Metric 5, Research – Number of studies reported to management (PRM009)(All)

Measure 5a: Research-Number of Reports (All) - \$500

Measure 5b: Research-Number of Monitoring Events (All) - \$500

Metric 6, Economic benefits - Number of jobs created - temporary jobs (COI103)(Biosolids)

Measure 6a: Economic Benefits-Number of Temporary Jobs (Biosolids) - \$500

Metric 7: Marine Habitat Restoration – SAV (HR007) (Ft. DeSoto)

Measure/Variable/Parameter 7a: Creation of a hydrodynamic model of circulation(Ft. DeSoto) - \$500

Measure/Variable/Parameter 7b: Seagrass transect monitoring (Ft. DeSoto) - \$1,000

Measure/Variable/Parameter 7c: Aerial seagrass analysis (Ft. DeSoto) - \$500

Measure/Variable/Parameter 7d: Benthic sampling (Ft. DeSoto) - \$500

Measure/Variable/Parameter 7e: Water Quality Monitoring (Ft. DeSoto) - \$500

Measure/Variable/Parameter 7f: Real-time water monitoring (Ft. DeSoto) - \$500

Metric 8: Reduction of Greenhouse Gas Emissions (Biosolids to Energy)

Measure/Variable/Parameter 8a: Estimation of CO₂ reduction - \$500

Contingency Monitoring: \$2,000

Literature Cited:

- Braun-Blanquet, J. 1965. *Plant Sociology: The Study of Plant Communities*. Hafner, London.
- California Air Resources Board. 2010. *Local Government Operations Protocol for the Quantification and Reporting of Greenhouse Gas Emissions Inventories*. 237 p.
- California Air Resources Board. 2014. *Low Carbon Fuel Standard (LCFS) Pathway for the Production of Biomethane from the Mesophilic Anaerobic Digestion of Wastewater Sludge at a Publicly-Owned Treatment Works (POTW)*. 62 p.
- CHNEP, SBEP, and TBEP. 2013. *Southwest Florida Regional Ecosystem Restoration Plan*. 48 p.
- Cottam G, and J.T. Curtis. 1956. The use of distance measures in phytosociological sampling. *Ecology* 37:451-460.
- Johansson, J.O.R. 2016. *Seagrass Transect Monitoring in Tampa Bay: A Summary of Findings from 1997 through 2015*. TBEP Technical Report 08-2016. 93 p.
- Karlen, D.J., T.L. Dix, B.K. Goetting, S.E. Markham, K.W. Campbell, J.M. Jernigan. 2015. *Twenty-year Trends in the Benthic Community and Sediment Quality of Tampa Bay: 1993 – 2012*. TBEP Technical Report 04-15. 256 p.
- Tampa Bay Estuary Program. 2006. *Comprehensive Conservation and Management Plan Update*.
- Tomasko, D.A., C.A. Corbett, H.S. Greening, and G.E. Raulerson. 2005. Spatial and temporal variation in seagrass coverage in Southwest Florida: assessing the relative effects of anthropogenic nutrient load reductions and rainfall in four contiguous estuaries. *Marine Pollution Bulletin* 50: 797–805.

ATTACHMENT 2 to EXHIBIT "A"
Data Management Plan

Project Name: Tampa Bay Estuary Program

Agency: USEPA

Project Phase: ___ Planning Implementation Post-Implementation

Project's Designated Data Steward(s): Gary Raulerson, 727-893-2765, graulerson@tbep.org

Estimated budget for Data Management: Included within ODP

Expected data collection start date for overall project: 1/1/2018

Expected data collection end date for overall project: 8/30/2022

Brief project description: This project includes environmental compliance attainment, quality assurance, pre-monitoring, and implementation activities for five priority water quality and habitat improvement elements located throughout the Tampa Bay watershed, all of which have been vetted by the local government and agency partners participating in the Tampa Bay Estuary Program (TBEP). Activities are proposed throughout the Tampa Bay watershed. More than \$80 million (cash and in-kind) from local, state and federal agencies will be leveraged to amplify the benefits of this project. Each element has been identified by TBEP partners as a priority regional need, and has been vetted and approved by the TBEP Boards. Projects include:

- Biosolids to Energy (St. Petersburg)
- Coastal Invasive Plant Removal (Hillsborough County)
- Copeland Park (City of Tampa)
- Fort DeSoto Recirculation and Seagrass Recovery (Pinellas County)
- Robinson Preserve Water Quality and Habitat Restoration (Manatee County)

Project location: Tampa Bay is on the west-central coast of Florida and is the largest open- water estuary in the state of Florida. The project components are located within the Tampa Bay watershed in Hillsborough, Manatee, and Pinellas Counties.

General description of data collection activities (methods, sampling frequency, etc.):

Submerged and emergent vegetative quadrats (Braun-Blanquet 1965), point-center-quarter tree characteristics (Cottam and Curtis 1956), benthic characteristics (sediment grain size, benthic community), and GIS analysis. See related Observational Data Plan for additional explanation.

Do you have in-house data management and metadata capacity? Yes ___ No

If so, describe how this project's data and metadata will be stored, archived, and made available/provided to the Council; and if it will utilize digital object identifiers (DOI's)? If not, how will you ensure that the project's data and metadata will be stored, archived, and made

available/provided to the Council? Describe how this will be accomplished.

The project data along with appropriate FGDC-compliant metadata will be stored on an internal TBEP server and backed up regularly (bi-weekly onsite and monthly offsite). Tabular and GIS data will be available upon request from the data steward. Digital object identifiers will not be assigned except as required by publishers of peer-reviewed articles. All electronic data and metadata will be delivered to the RESTORE Council on a yearly basis for review and approval.

List the Observational Data Types being collected and, if known at this time, the following information for each:

Data type: Interpreted aerial imagery of seagrasses

Related Metric(s) in ODP: PRM007 (Monitoring – Ft. DeSoto), PRM009 (Research – Ft. DeSoto), and HR007 (Marine Habitat Restoration – Ft. DeSoto)

GIS Representation: Vector digital data

Projection: NAD83_HARN_Florida_West_ftUS

POC: Gary Raulerson, 727-893-2765, graulerson@tbep.org

Frequency of Collection: Bi-annual (every other year)

Duration of Collection: 2 discrete acquisitions, anticipated late 2017/early 2018 and late 2019/early 2020

Data Storage Format: Open data ESRI server (public access)

Units: Acres

Horizontal and Vertical Datum: UTM, NAVD88

Data type: Habitat mosaic boundary, collected via GPS unit

Related Metric(s) in ODP: HR004 (Land Restoration – Robinson Preserve), HR008 (Removal of Invasives, Coastal Invasive Plant Removal), HR013 (Wetland Restoration – Copeland Park, Ft. DeSoto), PRM007 (Monitoring – All), and PRM009 (Research – All)

GIS Representation: Polygon

Projection: NAD83_HARN_Florida_West_ftUS

POC: Gary Raulerson, 727-893-2765, graulerson@tbep.org

Frequency of Collection: Quarterly (years 1 and 2) to biannual (years 3, 4 and 5)

Duration of Collection: Throughout implementation (anticipated three to five years)

Data Storage Format:

ESRI shapefile Units:

meters

Horizontal and Vertical Datum: UTM, NAVD88

Data type: Vegetation (Coastal upland, intertidal, emergent freshwater)

Related Metric(s) in ODP: HR004 (Land Restoration – Robinson Preserve), HR008 (Removal of Invasives, Coastal Invasive Plant Removal), HR013 (Wetland Restoration – Copeland Park, Ft. DeSoto), PRM007 (Monitoring – All), and PRM009 (Research – All)

GIS Representation: Randomly selected quadrats will be represented by

lat/long points Projection: NAD83_HARN_Florida_West_ftUS

POC: Gary Raulerson, 727-893-2765, graulerson@tbep.org

Frequency of Collection: Quarterly (years 1 and 2) to biannual (years 3, 4 and 5) Duration of Collection: Length of project (anticipated five years)

Data Storage Format: ESRI shapefiles, Excel

spreadsheet Units: % cover, number of trees/ha

Horizontal and Vertical Datum: UTM, NAVD88

Data type: Submerged Aquatic Vegetation

Related Metric(s) in ODP: PRM007 (Monitoring – Ft. DeSoto), PRM009 (Research – Ft. DeSoto), and HR007 (Marine Habitat Restoration – Ft. DeSoto)

GIS Representation: Transect quadrats will be represented by

lat/long points Projection: NAD83_HARN_Florida_West_ftUS

POC: Gary Raulerson, 727-893-2765,

graulerson@tbep.org Frequency of Collection:

Annual

Duration of Collection: Three years

Data Storage Format: ESRI shapefiles, Excel spreadsheet

Units: Subjective estimates for % cover and epiphyte load, blade length in cm Horizontal and Vertical Datum: UTM, NAVD88

Data type: Benthic sediment characteristics

Related Metric(s) in ODP: PRM007 (Monitoring – Ft. DeSoto), PRM009 (Research – Ft. DeSoto), HR007 (Marine Habitat Restoration – Ft. DeSoto)

GIS Representation: Randomly selected collection sites will be represented by

lat/long points Projection: NAD83_HARN_Florida_West_ftUS

POC: Gary Raulerson, 727-893-2765, graulerson@tbep.org

Frequency of Collection: Annual

Duration of Collection: Two years (project

years 2 and 3) Data Storage Format: ESRI

shapefiles, Excel spreadsheet

Units: % silt/clay/sand, number of benthic invertebrate species, species

abundance Horizontal and Vertical Datum: UTM, NAVD88

Data type: Water quality parameters (including salinity, dissolved oxygen, conductivity, pH, temperature, nutrients, chlorophyll, and phytoplankton, collected and analyzed using standardized procedures as conducted by local agencies

Related Metric(s) in ODP: PRM007 (Monitoring – Ft. DeSoto), PRM009 (Research – Ft. DeSoto), HR007 (Marine Habitat Restoration – Ft. DeSoto)

GIS Representation: Randomly selected collection sites will be represented by

lat/long points Projection: NAD83_HARN_Florida_West_ftUS

POC: Gary Raulerson, 727-893-2765, graulerson@tbep.org

Frequency of Collection: Continuous monitoring for salinity, dissolved oxygen, conductivity, pH, and temperature, and eight times per year for nutrients,

chlorophyll, and phytoplankton) Duration of Collection: Three years

Data Storage Format: Excel spreadsheet,

ESRI shapefiles Units: Varies by parameter:

- Salinity – PSU
- Dissolved oxygen – mg/L
- Conductivity – ms/cm
- pH – unitless measurement
- Temperature – °C
- Nutrients – mg/L
- Chlorophyll a – mg/L
- Phytoplankton – species richness, identification to practical

taxonomic level Horizontal and Vertical Datum: UTM, NAVD88

Data type: Number of technical positions generated

Related Metric(s) in ODP: PRM009 (Research – Biosolids to Energy), COI103 (Economic Benefits – Biosolids to Energy), and GHG001 (Greenhouse Gas Reduction – Biosolids to Energy)

GIS Representation: n/a

Projection: n/a

POC: Gary Raulerson, 727-893-2765,

graulerson@tbep.org Frequency of Collection:

Annual

Duration of Collection: Length of project (anticipated five years) Data Storage Format: Excel spreadsheet

Units: Hours worked

Horizontal and Vertical Datum: n/a

Data type: Mileage driven and biogas consumed

Related Metric(s) in ODP: PRM009 (Research – Biosolids to Energy) and GHG001 (Greenhouse Gas Reduction – Biosolids to Energy)

GIS

Representati

on: n/a

Projection:

n/a

POC: Gary Raulerson, 727-893-2765,

graulerson@tbep.org Frequency of Collection:

Biannual (twice per year)

Duration of Collection: Three years

Data Storage Format: Excel

spreadsheet Units: Miles,

Cubic feet

Horizontal and Vertical Datum: n/a

ATTACHMENT 3 to EXHIBIT “A”
Progress Report
Template

Project Title: Gulf Coast Ecosystem Restoration Council Comprehensive Plan
Component (RESTORE)

Cooperative Agreement Number:

00D70018 Dates covered by this

report:

1. Describe the work and measurable outcomes accomplished. Provide specific details with regard to fieldwork scheduled and completed (including photographs, where possible), meetings or conferences conducted or attended.

2. Were any problems encountered? If yes, please describe corrective actions taken.

3. Is the project work on schedule?

4. Document any changes in project management (personnel) and provide the updated contact information.

5. Outline the work projected for the next reporting period.

6. Subaward Reporting: Report on subaward monitoring activities under 2 CFR 200.331(d) that were not covered in items 1-5 above. This includes: Summaries of results of reviews of financial and programmatic reports; Summaries of findings from site visits and/or desk reviews to ensure effective subrecipient performance; Environmental results the subrecipient achieved; Summaries of audit findings and related pass-through entity management decisions; Actions the pass-through entity has taken to correct deficiencies such as those specified at 2 CFR § 200.331(e), 2 CFR § 200.207 and the 2 CFR § 200.338 Remedies for Noncompliance.



SRF Project Number

United States Environmental Protection Agency
Washington, D.C. 20460

**Certification Regarding
Debarment, Suspension, and Other Responsibility Matters**

The prospective participant certifies to the best of its knowledge and belief that it and its principals:

- (a) Are not presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from covered transactions by any Federal department or agency;
- (b) Have not within a three year period preceding this proposal been convicted of or had a civil judgment rendered against them for commission of fraud or a criminal offense in connection with obtaining, attempting to obtain, or performing a public: (Federal, State, or local) transaction or contract under a public transaction; violation of Federal or State antitrust statutes or commission of embezzlement, theft, forgery, bribery, falsification or destruction of records, making false statements, or receiving stolen property;
- (c) Are not presently indicted for or otherwise criminally or civilly charged by a government entity (Federal, State, or local) with commission of any of the offenses enumerated in paragraph (1)(b) of this certification; and
- (d) Have not within a three-year period preceding this application/proposal had one or more public transactions (Federal, State, or local) terminated for cause or default.

I understand that a false statement on this certification may be grounds for rejection of this proposal or termination of the award. In addition, under 18 USC Sec. 1001, a false statement may result in a fine of up to \$10,000 or imprisonment for up to 5 years, or both.

Typed Name and Title of Authorized Representative

Signature of Authorized Representative Date

Y I am unable to certify to the above statements. My explanation is attached.



ATTACHMENT 5 to EXHIBIT "A"
United States
ENVIRONMENTAL PROTECTION AGENCY
Washington, DC 20460

OMB Control No. 2030-0020
Approval expires 06/30/2017

EPA Project Control Number

CERTIFICATION REGARDING LOBBYING

CERTIFICATION FOR CONTRACTS, GRANTS, LOANS AND COOPERATIVE AGREEMENTS

The undersigned certifies, to the best of his or her knowledge and belief, that:

(1) No Federal appropriated funds have been paid or will be paid, by or on behalf of the undersigned, to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with the awarding of any Federal contract, the making of any Federal grant, the making of any Federal loan, the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment, or modification of any Federal contract, grant, loan, or cooperative agreement.

(2) If any funds other than Federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress in connection with this Federal contract, grant, loan, or cooperative agreement, the undersigned shall complete and submit Standard Form-LLL, "Disclosure Form to Report Lobbying," in accordance with its instructions.

(3) The undersigned shall require that the language of this certification be included in the award documents for all sub-awards at all tiers (including sub-contracts, sub-grants, and contracts under grants, loans, and cooperative agreements) and that all sub-recipients shall certify and disclose accordingly.

This certification is a material representation of fact upon which reliance was placed when this transaction was made or entered into. Submission of this certification is a prerequisite for making or entering into this transaction imposed by section 1352, title 31 U.S. Code. Any person who fails to file the required certification shall be subject to a civil penalty of not less than \$10,000 and not more than \$100,000 for each such failure.

Typed Name & Title of Authorized Representative

Signature and Date of Authorized Representative

The public reporting and recordkeeping burden for this collection of information is estimated to average 15 minutes per response. Send comments on the Agency's need for this information, the accuracy of the provided burden estimates, and any suggested methods for minimizing respondent burden, including through the use of automated collection techniques to the Director, Collection Strategies Division, U.S. Environmental Protection Agency (2822T), 1200 Pennsylvania Ave., NW, Washington, D.C. 20460. Include the OMB control number in any correspondence. Do not send the completed form to this address.

ATTACHMENT 6 to EXHIBIT "A"

RESTORE Act Certifications

Pursuant to the RESTORE Act, Subaward recipient certifies that in implementing the Grant:

1. I certify that each activity funded under this Agreement has been designed to plan for or undertake activities to restore and protect the natural resources, ecosystems, fisheries, marine and wildlife habitats, beaches, coastal wetlands, or economy of the Gulf Coast Region.
2. I certify that each activity funded under this Agreement is designed to carry out one or more of the eligible activities for this component.
3. I certify that each activity funded under this Agreement was part of a plan made available for public review and comment in a manner calculated to obtain broad-based participation from individuals, businesses, Indian tribes, and nonprofit organizations, and that the activity was selected after consideration of meaningful input from the public, as described in the grant application.
4. I certify that each activity funded under this Agreement that protects or restores natural resources is based on the best available science, as that term is defined in 31 CFR part 34.
5. I certify that this recipient has procedures in place for procuring property and services under this award that are consistent with the procurement standards applying to Federal grants. This recipient agrees that it will not request funds under this award for any contract unless this certification remains true and accurate.
6. I certify that a conflict of interest policy is in effect and covering each activity funded under this Agreement.
7. I make each of these certifications based on my personal knowledge and belief after reasonable and diligent inquiry, and I affirm that this recipient maintains written documentation sufficient to support each certification made above, and that this recipient's compliance with each of these certifications is a condition of this recipient's initial and continuing receipt and use of the funds provided under this Agreement.

_____ Signature of Subaward Recipient Authorized Official

_____ Name and Title of Subaward Recipient Authorized Official

_____ Date

EXHIBIT "B"

Additional RESTORE Council Terms and Conditions

1. Competency of Organizations Generating Environmental Measurement Data

In accordance with Agency Policy Directive Number FEM-2012-02, Policy to Assure the Competency of Organizations Generating Environmental Measurement Data under Agency-Funded Assistance Agreements, Recipient agrees, by entering into this agreement, that it has demonstrated competency prior to award, or alternatively, where a pre-award demonstration of competency is not practicable, Recipient agrees to demonstrate competency prior to carrying out any activities under the award involving the generation or use of environmental data. Recipient shall maintain competency for the duration of the project period of this agreement and this will be documented during the annual reporting process. A copy of the Policy is available online at http://www.epa.gov/fem/lab_comp.htm or a copy may also be requested by contacting the EPA project officer for this award.

2. Prior to environmental data collection or data compilation, a Quality Assurance Project Plan (QAPP) must be approved by EPA. Additionally, an EPA approved and up-to-date Quality Management Plan (QMP) must be in place. Environmental data generated under this agreement must be submitted to the EPA project officer, if requested.

3. Cybersecurity Condition

(a) The recipient agrees that when collecting and managing environmental data under this assistance agreement, it will protect the data by following all applicable State or Tribal law cybersecurity requirements.

(b) (1) EPA must ensure that any connections between the recipient's network or information system and EPA networks used by the recipient to transfer data under this agreement, are secure. For purposes of this Section, a connection is defined as a dedicated persistent interface between an Agency IT system and an external IT system for the purpose of transferring information. Transitory, user-controlled connections such as website browsing are excluded from this definition. If the recipient's connections as defined above do not go through the Environmental Information Exchange Network or EPA's Central Data Exchange, the recipient agrees to contact the EPA Project Officer (PO) no later than 90 days after the date of this award and work with the designated Regional/Headquarters Information Security Officer to ensure that the connections meet EPA security requirements, including entering into Interconnection Service Agreements as appropriate. This condition does not apply to manual entry of data by the recipient into systems operated and used by EPA's regulatory programs for the submission of reporting and/or compliance data.

(2) The recipient agrees that any subawards it makes under this agreement will require the subrecipient to comply with the requirements in (b)(1) if the subrecipient's network or information system is connected to EPA networks to transfer data to the Agency using systems other than the Environmental Information Exchange Network or EPA's Central Data Exchange. The recipient will be in compliance with this condition: by including this requirement in subaward agreements; and during subrecipient monitoring deemed necessary by the recipient under 2 CFR 200.331(d), by inquiring whether the subrecipient has contacted the EPA Project Officer. Nothing in this condition requires the recipient to contact the EPA Project Officer on behalf of a subrecipient or to be involved in the negotiation of an Interconnection Service Agreement between the subrecipient and EPA.

4. The recipient, including sub-award recipients and contractors, agrees to comply, as applicable, with the Council's IAA Standard Terms and Conditions (IAA STCs), dated 5-5-2016, located on the Council's website at www.restorethegulf.gov . The IAA STCs, as applicable, will flow down to the Recipient, subawards, and contractors in addition to the EPA's own standard terms and conditions applicable to the awards and sub-awards under which this project or program will be implemented. Here is the weblink to the Council's IAA Standard Terms and Conditions (STCs) dated 5-5-2016 https://www.restorethegulf.gov/sites/default/files/GO-RES_20160505_Council_IAA_STCs.pdf .